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INFANTRY JOURNAL

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XXXVII, No. 5

NOVEMBER, 1930

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INFANTRY JOURNAL

JOURNAL OF THE UNITED STATES INFANTRY ASSOCIATION

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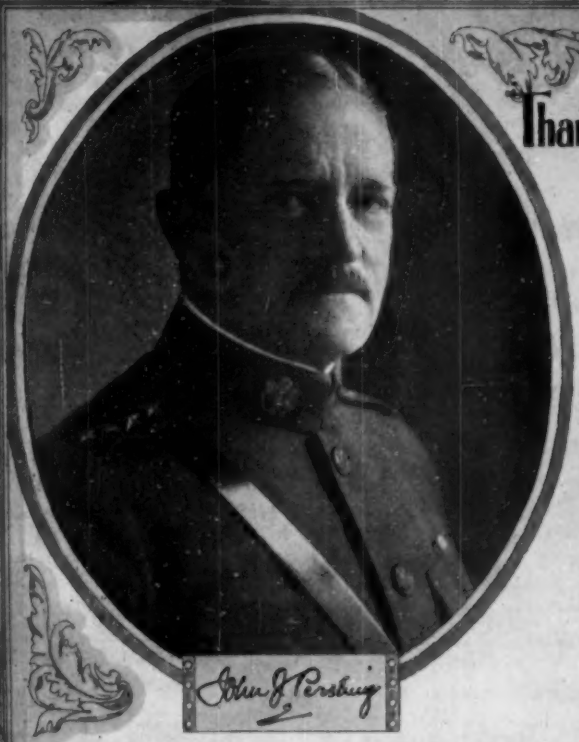


Thanksgiving in 1918 at G.H.Q.

Extracted from the A.E.F. Records with the approval of General..... John J. Pershing

General Pershing spoke, in part, as follows:

Fellow Soldiers—Never in the history of our country have we, as a people, come together with such full hearts as on this greatest of all Thanksgiving Days. As the sounds of battle die away, it is fitting to give thanks to God, who has guided our footsteps aright.

Victory was our goal. It is the hard-won gift of the soldier to his country. As soldiers inspired by every spiritual sentiment, we have each solemnly prayed that the success of righteousness should be ours. Today with thankfulness we humbly acknowledge that His strength has given us the victory, and we are thankful that the privilege has been given us to serve in such a cause.

To many fame has come; to all have come a new outlook on life, a clearer perspective regarding its obligations, a more exalted conception of duty and of honor, and a deeper sense of responsibility to the nation and to God. May we, therefore, give thanks that unselfish service has given us this new vision, and that we are to return to our firesides with higher aims ennobling to ourselves and to those who have prayed for us that we might worthily represent them.

This spirit that has won the victory is now to become the mainstay of peace and happiness. It is too priceless to be cast aside by indulgence; too sacred not to be cherished always. The nation awaits the return of its soldiers, believing in the stability of character that has come from self-discipline and self-sacrifice. Confident of the new power that the stern school of war and discipline has brought to each of us, American mothers wait with loving hearts the return of their gallant sons.

Great cause indeed have we to thank God, especially with the trial successfully met and the victory won. Still more should we thank Him for the golden future of opportunity and the hope of permanent and universal peace.

INFANTRY JOURNAL

Vol. XXXVII NOVEMBER, 1930 No. 5

Industrial Mobilization

COLONEL FREDERICK H. PAYNE

THE ASSISTANT SECRETARY OF WAR

WE ARE living in an industrial age, and fighting forces have come to depend in a high degree upon the intricate weapons, machines, ammunition, chemicals and other supplies that industry alone can produce. A nation cannot afford to face a major emergency today unless its industrial facilities and material assets are capable of meeting promptly the great additional demands that will be made upon them in war.

Prior to 1914 there was no universal appreciation of the great influence that industrial and economic factors would exert in a modern conflict. Even after watching the progress of the war in Europe for two and one-half years, we, in this country, did not visualize clearly the difficulties we would encounter in procuring munitions—nor were we prepared to carry out the Army's necessary functions with respect to such procurement. We clung too closely to the conception of warfare as purely a struggle between armed forces in the field, and did not think of it as a contest in which all the mental, moral, and material resources of each opponent would be involved. Although we insisted upon proper organization and unity of command so far as the military forces were concerned, we had not foreseen the necessity of providing for a national organization of our industrial activities.

When the United States entered the World War it was the greatest industrial nation of the world. We apparently assumed that the mere existence of numerous industrial establishments, and the possession of great natural resources were in themselves sufficient guarantee of prompt production of the munitions we would need. Our experience in 1917 was disillusioning. Able to make only vague estimates as to our requirements in munitions, we could not formulate a coordinated production objective. Work was started on many items of little importance. Contracts were placed for others far in excess of immediate requirements. Certain essential items whose production would necessarily consume much time were initially neglected. Lack of centralized control over governmental procurement agencies encouraged competition among them, and prices for commodities and services rapidly began to soar. The Government spent many millions purchasing articles at unreasonable prices resulting from its own lack of foresight. There was much useless duplication and interference which seriously handicapped production. Our delay

in setting up in the Federal Government an organization to direct and control the Nation's industry prevented the initiation of constructive and corrective policies until the last few months of the war. This added to the difficulties, which even under the best of conditions, were bound to exist. Recurrence of these mistakes under different international circumstances might jeopardize the very existence of this Nation.

This expensive lesson taught us that if the country is to be ready to meet the test of war, preparation in the industrial field must go hand in hand with purely military preparation. We learned from the World War experiences of many nations that necessary munitions must be procured promptly without occasioning great disturbances in the normal economic life of the country. Violent readjustments cause confusion and uncertainty, and consume time. Serious lowering of the living standard, wasteful methods in procuring necessary supplies, and rapid and inequitable changes in commodity prices are all damaging to national morale. To avoid these evils during a major emergency requires serious study and careful planning in time of peace.

The pressing need for such study and planning was still fresh in our minds when the National Defense Act was revised in 1920. Section 5a of that act reads in part as follows:

"Hereafter the Assistant Secretary of War * * * shall be charged with supervision of the procurement of all military supplies and other business of the War Department pertaining thereto and the assurance of adequate provision for the mobilization of material and industrial organizations essential to war-time needs. * * *"

During the past ten years, much has been done to carry out the provisions of the passage just quoted. Much still remains to be done—in fact, the task is a continuing one—and for this reason, if for no other, we should all seek to understand the problems that are involved in preparing a plan for industrial mobilization.

These problems are briefly as follows:

1. To devise and have ready for prompt operation the system to be employed in procuring from industry the munitions for the army estimated by the General Staff to be initially necessary.

2. To determine what governmental action will be necessary to insure to industrial establishments the labor, power, money and raw materials essential to the production of commodities needed by combatant forces and the civilian population.

3. To provide for an emergency organization with adequate power to carry adopted plans into effect.

Obviously, the corps of officers working on these problems must be familiar with current industrial practices and conditions. Fortunately, the peace time duties of my office and of army procurement branches furnish experience in these matters. In the process of procuring current supplies, contacts are made with industry and essential information is collected. Moreover, opportunity is afforded to coordinate army purchasing agencies and methods used in peace with the plans proposed for use in the event of war.

The gist of our present plan for the actual procurement of army munitions is simply this—to make in peace a specific arrangement with each con-

cern that must produce an essential item upon the outbreak of war. The whole task is apportioned to the various sections of the country in accordance with productive capacity, and the item assigned each establishment is the one it is best suited to produce. This plan insures an orderly and economic distribution of the initial production load to all parts of the country. It also gives each industrial establishment forewarning of the task the Government will expect it to assume upon the beginning of war, and an opportunity to make some preparation for the accomplishment of the task. In this phase of the work, due in large part to the valuable assistance rendered by individual business men, real progress has been made. Over fourteen thousand plants have made tentative agreements with the Government to begin the production of specific items as quickly as practicable after the receipt of proper notification. If we should face a great emergency tomorrow, we feel reasonably certain that mistakes occasioned in 1917 by our lack of accurate knowledge of military requirements; by the concentration of production tasks in already congested areas; and by unwarranted competition among purchasing agents of the Government, would not be repeated. Ample provision is made to insure that there will be no interference with the arrangements of the Navy for procuring munitions, or with production to meet essential civilian needs.

In working out a munitions procurement program, many details must receive the earnest attention of the planning agencies—and the questions that arise call for team-work among all concerned. For instance, the Air Corps some time ago drew up specifications for a suitable type of training plane for use in war. Upon investigation the procurement section of the Air Corps found that there was no such machine in commercial production. The using service then made a re-study of its requirements to determine whether, for this purpose, it could not adopt one of the types already in production. This particular question has not been definitely settled, but it illustrates how the procurement and using services work together in the attempt to secure the most efficient results from existing facilities, rather than require the manufacturer to consume time in the establishment of new producton processes.

When any of the Procurement Services has completed a plan for the procurement of a particular item, it is able to furnish accurate estimates of the speed at which deliveries of the finished product can be made. These estimates are most important, for they serve to show to the Government what amounts of various essential items should be kept in storage to meet military needs during the period before industry can get into mass production. Proper industrial planning seeks in every possible way to reduce this period of non-productivity, in order that our dependence upon "war reserve munitions" may be substantially decreased. It is for this reason that my office continues to urge the accumulation of tools, gages, dies and fixtures, and the placing of "Educational Orders."

Above all, it must be understood that our procurement plan does not contemplate the purchase or the unnecessary commandeering of existing factories; nor does it provide for any control

over industrial facilities by military officials. Responsibility for operation remains with plant executives; any other system would fail to take advantage of their demonstrated efficiency.

So much for the first phase of preparing for industrial mobilization. Right here is the point in war planning where my office would like to stop. Preferably, we would confine our efforts to developing, revising and perfecting the plan briefly outlined above. This, however, we cannot do, as will be disclosed by a further analysis of the problems involved.

Army purchases in the first twelve months of a general mobilization will total approximately $10,000,000,000, and speed in delivery will be of the utmost importance. It is apparent that no matter how efficiently such a huge order is distributed to industry, many problems will arise which will be solved satisfactorily only if they have been foreseen and adequate provision made to meet them. The Government cannot afford to place war contracts of this size and then do nothing more than wait for delivery of finished items. We must assure to every essential industrial facility an adequate supply of raw materials, transportation, labor, power, and money.

In considering these matters we are dealing with problems much broader in scope than the mere making of specific plans with industrial establishments for the delivery of finished items. We must now estimate the effect of emergency demands on the normal business processes of the Nation and must develop plans to meet the situation thus created.

Studies of the factors that will have an important bearing on our industrial effort in war have been progressing for the past ten years and much essential information has been accumulated. Some of these studies deal with raw materials. In many cases there would be no difficulty in procuring them because of our wealth of natural resources, but over twenty others, among which are manganese, tin, rubber, and wool, would be extremely difficult to obtain in the necessary quantities should the enemy seriously interfere with our over-seas commerce. Consequently, my office must evolve plans for overcoming or minimizing the effect of such shortages.

Consider for a moment the question of rubber. The United States imports annually from southeast Asia and adjoining islands, about five hundred thousand tons. If our communications with that region were interrupted, we would face a rather formidable problem. To lessen the effects of such a situation we can:

Decrease consumption of rubber, notably on pleasure cars.

Increase the use of reclaimed rubber.

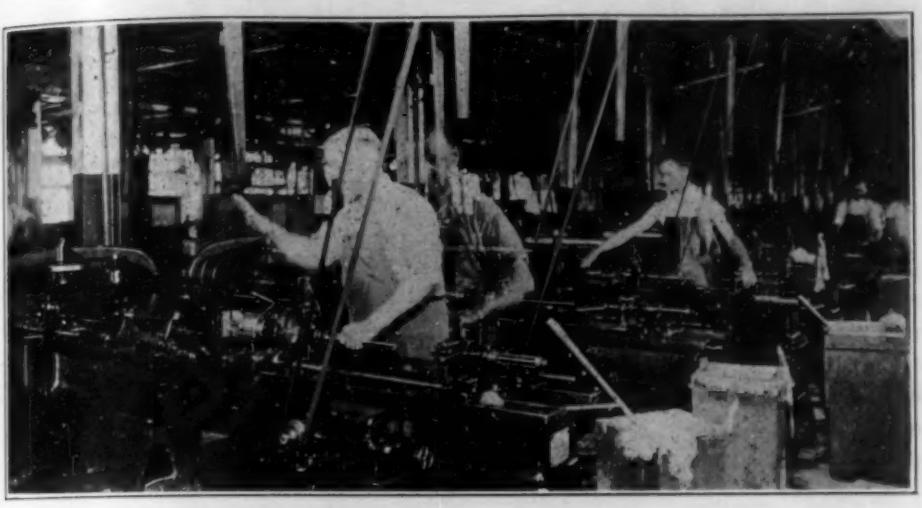
Commandeer all raw rubber in the United States and use it for essential purposes only.

Expand the small rubber industry already operating in southwestern United States.

Encourage the development of synthetic rubber.

Use all possible means to import rubber through neutral countries with which we might be able to maintain communication.

To determine, and to be ready to apply, the best methods of doing all these things require a great amount of study and work on this one commodity alone. Possibly the future may see



Manufacturing Arms for the Government.

Rifling the Inside of Barrels at Winchester Repeating Arms Co., New Haven Plant.

a great change in our situation with respect to rubber—either through the development of a satisfactory synthetic material—or by developing a producing area in the North American continent. Planning agencies, however, must be ready to meet whatever situation exists—even while they endeavor to remedy that situation.

Again take the case of artillery ammunition—always an important subject. Aside from the many difficulties to be met in the production of all the component parts of the shell, there remains the problem of loading. The Ordnance Department, recognizing that there will be a shortage of skilled personnel, considers that the loading plants must be few in number—consequently, each must be large in size; the largest proposed requiring an outlay of over $150,000,000 for its construction. In the interests of safety, loading plants must be located far from population centers. The proposed solution consequently would require the concentration at isolated spots of large quantities of material and large numbers of workmen. This in turn demands a great deal of construction to shelter and care for the personnel. If possible these things should be avoided, but if we establish a great number of small plants over the country we shall lack the key men necessary to run them. The most efficient mean between the two extremes can be found only through prolonged study of all reasonable expedients.

Another interesting subject under this general heading is that of devising a plan for the control of prices. Existing literature, setting forth the World War experience of England, Russia, the United States and other countries in this field, is enlightening. If prices can be controlled and adjusted properly to changing conditions, the problem of distributing equitably the economic burdens of war to all classes of citizens is almost completely solved.

Conflicting opinions as to the function of government in this matter are

freely expressed. On the one side we hear "Prices must be permitted to go where they will, and excess profits must be taken into the national treasury through graduated income taxes." The proponents of this idea hold that any other system will conflict with the "fundamental law of supply and demand"—and this they maintain is a complete answer within itself. Such generalizations are easy to make and this particular one offers no solution to the problem, as the history of several of the great nations in the World War amply proves.

As the other extreme there has been proposed often the idea that the Government should "draft everything and everybody." If this proposition is to be taken literally, it certainly constitutes a rather large order. It is evident that many intricate and perplexing administrative details would accompany any attempt to incorporate every person and every material thing in this country into one rigidly controlled unit. The time required to put such an organization on a working basis renders it, in my opinion, an impracticable solution to this problem. The result we are seeking is efficiency in the conduct of war, and the equitable distribution of war's economic burdens. None should profit through the sacrifice of others, and if this is to be accomplished while the nation is moving swiftly to develop its full power against the enemy, the scheme adopted must be simple, sound and workable.

Simplicity demands that any plan affecting control of prices be based on peace time customs and methods—and must be made effective by the support of public opinion, by governmental regulations, and the control exercised by the government over raw materials, transportation, and other essential elements of production.

Space does not permit me to discuss any of these subjects at length nor to describe the studies made concerning raw materials, labor, finances, power, transportation and other essentials. I mention them to indicate the scope of the investigations that are necessary to a satisfactory solution of our second big problem in planning for industrial mobilization.

It is apparent that if the central government is to exercise all these unaccustomed controls in time of war, there must be ready a plan for setting up the machinery for the performance of this function. *This, the third main problem* is well set forth in the following quotation from a paper prepared in the War Department General Staff:

"A Government at war is now confronted not only with a military problem, but with an industrial problem of a nature wholly different from that confronting it in peace. Indeed its attitude toward industry is largely reversed—from one of reliance upon private initiative it becomes one of extreme paternalism. For in peace the commercial and industrial activities of the nation flow from the working of the economic law of supply and demand, with a minimum of interference by governmental regulation. In war this law must be displaced in a large measure by that of military exigency. Some activities take on a much greater importance than others; so some must be expanded, others curtailed, and still others set in entirely new directions, and many must be re-grouped in new relationships. The impulse for this and the subsequent guidance and control of the national activities in their new channels and new relationships, must come from the central Government, which alone can determine how the exigency can best be met. This

Manufacturing Arms for the Government.

Finishing Department at the Winchester Repeating Arms Co., New Haven Plant.

necessarily entails material changes in the administrative machinery of the Government."

If reorganization is not foreseen and planned for, it will cause confusion, uncertainty and delay. In this connection I quote from a letter written in 1924 by President Hoover:

"While I have the impression that in case of another war, some years hence, the conditions surrounding it might require a set-up apropos to its nature, on the other hand, greater preparedness in administrative organization would have prevented many losses and much confusion which occurred during the early stages of the last war owing to the time required to develop adequate administration. The conditions then were unprecedented, and organization had to a considerable degree to be developed by experience."

The task of devising a suitable governmental organization for war is not solely the duty of any particular agency of the Government. Furthermore, no arbitrary decisions from any authority can secure the results we are seeking. To be of value, the basic scheme for organization must be a natural and logical development so that it may serve as the continuing outline into which can be fitted subsidiary plans as they are prepared. It will endure only if its essential features receive the approval of all interested agencies, including industry itself. Otherwise, changes in personnel will result in the scrapping or revising from time to time of the basic provisions of the plan, and progress in the development of essential details would cease.

My office is endeavoring to contribute its proper share toward providing for a great war organization appropriate to this country. Our duty in this particular problem is to devise a governmental headquarters for industrial control—other matters are considered only to determine the relationship that should exist between the industrial and other essential parts of the whole war organization. To quote from the Handbook for the War De-

partment General Staff: "There are certain other superagencies of the business of war that existed in the last war and must exist again in the next. * * * The Assistant Secretary of War cannot give assurance of adequate provision for industrial mobilization unless he plans for the re-creation of these agencies." Fortunately, we have as a guide the experience of our own and other countries in the World War, and the assistance of men who held key positions in similar organizations in that conflict.

Naturally, the personnel in the proposed organization must be experienced in those activities with which they will be expected to deal. Manufacturers, financiers, agriculturists, engineers and other professional men, representatives of labor, of transportation systems, and so on will be included in the membership of such a body. Exactly how it will be organized for the performance of its many functions will depend to a great degree upon the habits and personality of the war time President.

Briefly, the plan my office has proposed visualizes the President exercising his war powers with respect to industry through an Administrator of National Resources, an Administrator of Man Power, and two or three other direct assistants, depending upon the exact formation the President chooses to adopt. To provide the necessary flexibility the plan for each essential part of the organization is built up, as far as practicable, as a unit. This applies particularly to plans for organizations that will control war trade, shipping, fuel, food, marine insurance, and financing. Thus, no matter what the eventual grouping by the President, the preliminary studies, made in peace, will be valuable to him and his assistants.

The suggestion is often made that we should seek legislation from Congress to provide definite answers to many of these questions. With this idea I do not agree because such legislation would make plans inflexible, and difficult of revision. All plans dealing with the policies this government will pursue in the event of war must be kept up to date, if they are to be of value in an emergency. In my opinion, the War Department policy of keeping on hand drafts of bills for the President to present promptly to Congress in emergency is perfectly sound. This policy contemplates that the President, Congressional Committees and industry shall be kept informed of the contents of all such drafts, and their approval of them secured. Thus, in an emergency Congress will be in position to enact well thought out legislation promptly without consuming time in framing bills, holding hearings, etc.

There is one aspect of national preparation for war to which I invite your particular attention. Two kinds of preparation for war are essential—military and industrial, each vitally important. We have never had the opportunity or the money to make the complete preparations that we consider necessary. This applies particularly to the purely military aspects of the problem carried out under the direction of the Chief of Staff. This restriction is to be regretted—and we can only hope that it will not at some future date result seriously for the country. On the industrial side, however, much of the preparatory work can be accomplished with the expenditure of relatively small amounts of

money. The mines, the farms, the power and transportation systems, the manufacturing plants, and the trained personnel that will produce our war munitions already exist. This part of the problem involves principally study, thought and the development of plans for the proper use of these things. To the end that every constructive step possible may be taken, it behooves all of us to consider the problem seriously and to contribute whatever we may to its complete solution.

Of course, if war should be declared, trained officers will seek assignments to field duty, just as soldiers have always done under similar circumstances. By inclination and by training their interest will be in front of the Army's base depots, rather than in rear of them. When Congress in 1920 relieved the General Staff of the duty of supervising Army procurement and of planning for industrial mobilization, it appreciated the necessity of assigning these particular tasks to a separate group of well trained specialists. That law fixes the peace time responsibilities of the industrial staff as definitely as it does those of the General Staff. The major problems awaiting solution by each of these groups are of great importance, and neither group should be allowed to jeopardize success through devoting time and effort to inconsequential administrative details arising in the War Department. Each staff should bear in mind its own war mission. Cooperation and mutual assistance between the two should be automatic, but interference by either with the legitimate functions of the other should never occur. Thus, all of us will be enabled to devote our attention, if not exclusively, at least principally, to the same type of duties that we will probably be called upon to perform in the event of war.

In conclusion, I desire to emphasize a few salient points. In war the business of armies and navies is to fight—the business of industry is to give them the things with which to fight, and to provide the essentials for civilian consumption. Combatant forces and industry may be termed the national war-making team and each group must be ready to function promptly under its own selected leaders in the event of a major emergency.

In my office we are developing two plans, each coordinated with the other, but each prepared for a distinct purpose. One is a basic plan for industrial mobilization, designed to facilitate the efforts of industrial leaders when they are called upon to assist the President in directing our industrial effort in war. The other sets forth the process through which munitions will be procured by Army purchasing agents. This second plan, in the event of war will be executed by the procurement services of the Army, which, under the supervision of the Assistant Secretary of War, will form the connecting link between industry and the Army's combatant units. Plans for the efficient performance of this duty, while primarily of interest to procurement personnel, should also attract the study and comment of industrialists and of trained military leaders.

Some of the Articles that You Will Find in Next Month's INFANTRY JOURNAL Are:

INDUSTRIAL PREPAREDNESS, *by Maj. Gen. G. V. H. Moseley*—The first of a series of four discussions of the governmental and industrial machinery that backs up the combat troops.

WEST POINT, *by Maj. Gen. Wm. R. Smith*—The Superintendent of the Military Academy tells of the needs of and the plans for more land for that great and loved institution.

MARTINET, *by Col. C. M. Bundel*—Another penetrating discussion by an author who has made himself a favorite with readers of the JOURNAL.

THE CONCENTRATED ESSENCE OF WAR, *by Capt. B. H. Liddell-Hart*—A military writer of distinction presents the extremely concentrated results of many years of thought and study.

PREPARATORY REFLECTION, *by Lieut. Col. M. E. Spalding*—Some thoughts on looking before leaping.

THE LIGHT MACHINE GUN AND INFANTRY FIRE POWER, *by Lieut. Col. C. A. Dravo*—"This type of weapon insures efficiency, power, and mobility."

THE 2D BATTALION, 30TH INFANTRY, AND HILL 204, *by Col. C. H. Lanza*—An accurate study by an authority on military history and military art—with his comments and conclusions.

LIMAN VON SANDERS AND IAN HAMILTON, *by Prof. H. A. De Weerd*—The second and last part of an interesting historical paper.

The Officers' Reserve Corps

GENERAL C. P. SUMMERALL

OUR forefathers who drafted the Constitution of the United States fully realized that national defense is a paramount responsibility of our federal government, and sought to secure an adequate defense system through the voluntary action of our citizens. They embodied in the Constitution the provisions necessary to carry out that idea. For generations our hastily raised volunteers were officered largely by men whose only qualification for a commission was either the local popularity necessary to raise a company, or sufficient political prominence to ask for and receive a commission. Often it was a case of the blind leading the blind.

The day has passed when our individual citizens may seize their rifles from the shelf over the fireplace, form themselves into hurriedly organized units, and successfully wage battle. Warfare has immeasurably increased in its complexity. The World War taught us that we, as individuals, are no longer automatically trained for defense by reason of the nature of our civil occupation. Wars are now fought, not by armies alone, but by nations.

Our citizens now demand that their military leaders possess qualifications for commission such as to merit the rank they hold. With human lives at stake, no other standard is worthy of consideration. Leadership undertaken without the necessary technical and professional knowledge inevitably leads to unnecessary loss of priceless lives, if not to disaster.

Under the National Defense Act of 1920 the War Department was charged with the creation of the Organized Reserves. The Act provided for the Officers' Reserve Corps in order that in time of national emergency the Organized Reserves and other forces could be provided with officers who possess that measure of technical and tactical training which will qualify them as valuable and safe trainers, administrators, and leaders.

The War Department has been studying this problem and striving to provide training for the greatest number commensurate with appropriations. As is natural in the handling of a new and big project, policies have undergone a number of revisions. Suggestions from Reserve Officers and from those officers of the War Department who are in charge of Reserve affairs, have brought about many changes and, we believe, improvements in policy.

So many projects of major importance are under development that the dollar available to national defense is spread rather thinly over much area. So thinly, in fact, that those who are interested in any project naturally feel that their particular project is being neglected.

Each of the components of the Army of the United States is an essential spoke in the wheel of national defense. We cannot trim one spoke down to save wood for the strength of another. It is only by making sure of the stoutness of each spoke that we insure the reliability of the wheel. Within each of these components are numerous

arms and services. Take for example, the Infantry, and a few of its many demands—demands for the maintenance of the Infantry School and the Tank School, for the development in motorization and mechanization, for the improvement and change of the many types of infantry weapons. Each branch admits the requirements of the other branches but, in its solicitude to improve and progress, is disappointed when it does not always receive the amount of money its projects require. The Department is deeply interested in the progressive development of every project under its charge. Its annual estimates for the Organized Reserves are liberal when compared to the many other activities and demands included in the budget.

We may deplore the lack of opportunity to develop the Organized Reserves as trained units. We may recognize defects as to organization and assignment of personnel. However, we may take pride when we compare the present with conditions which prevailed ten years ago. Units of future national armies are now organized and allocated to territorial subdivisions of the country. This provision alone should result in the saving of much valuable time in the event of a major emergency. Organized Reserve units are becoming increasingly identified with their communities. Equally important is the fact that officers of the units are coming to know one another. This would obviate much of the confusion and lack of cooperation which resulted during the early days of the World War from the assignment of large numbers of officers, unknown to one another, to newly organized units in strange localities.

The War Department is anxious to provide training for as many Reserve officers each year as funds and facilities available will permit. One step made in this regard is that of authorizing corps area commanders to extend the experience in organization and training gained by Reserve personnel in summer camps by having them participate by organization and work as cohesive units in the performance of duties incident to training C. M. T. C. students—duties comparable to those which would confront Reserve officers in the event of an emergency. This plan will develop the initiative and self-reliance of the officers of those Reserve organizations selected for this work, and will bring home to them the absolute necessity of keeping abreast of the military profession if the Army of the United States is to be prepared to carry out the orders of the Chief Executive in any and all circumstances, and with efficiency and dispatch. The better trained our officers, the more rapidly will our units be made ready for combat missions.

Of course, the greatest value of the Reserve in peace lies in the time it saves in mobilization when an emergency develops. Think of the confusion that would have been avoided, the months, precious months, that would have been saved, the lives that would have been spared, had we possessed before the World War the Reserves of today. In 1916 we had fewer than 240,000 officers and enlisted men in the combined Regular Army and National Guard. Upon this pitifully inadequate foundation we had to build our war armies of over 4,000,000. We had the draft, but we had to delay calling the men until we had procured and trained the officers who were to instruct them.

Reserve Officers Receiving Military Instruction.

The 1928 War Department General Mobilization Plan contemplates the organization of six field armies, which will include, among many other units, nine Regular Army infantry divisions, 18 of the National Guard, and 27 of the Organized Reserve. For this great project it is estimated that 116,384 Reserve officers will be needed for organizations, and a large number, still under study, for zone of the interior installations. It is probable that 180,000 to 190,000 Reserve officers, in addition to officers of the Regular Army and the National Guard will be required.

It is at once obvious that several practical considerations prevent us from procuring this large number of Reserve officers for active training in time of peace. These factors are: Appropriations which limit both the training and the administration of such a large reserve; the size of the Regular Army and its resultant capacity to conduct reserve training; the limitation of supplies and installation facilities which influence both training and mobilization; and the voluntary readiness of a sufficient number of Reserve officers to take the necessary training to qualify themselves for specific assignments under the Mobilization Plan.

It is essential that we place the Reserve officers for whom we *have* appropriations, whom we can train, and who will volunteer for training, in the military units that will be first and most urgently needed in the event of a general mobilization. The War Department has therefore, established a procurement objective designed to accomplish this very result. Its details provide for the assignment of Reserve officers to: (a) Active and inactive units of the Regular Army; (b) The 27 Infantry and six Cavalry Reserve divisions; (c) Other Reserve units mo-

bilized in the first period of a general mobilization; (d) Zone of the interior installations in approved tables; and (e) A few other categories.

The Reserve officers required for these purposes constitute the peacetime procurement objective. The exact number will depend upon zone of interior requirements, which are still under consideration, but it is safe to say that it will include from 80,000 to 90,000 assignments for Reserve officers. These are more than ample to provide assignments for all Reserve officers who find the time to qualify themselves for this privilege and will, moreover, provide a reasonable flow of promotion in the Officers' Reserve Corps. From the reports of corps area commanders, Regular officers on duty with the Reserve, and especially from the statements of Reserve officers themselves, the War Department feels that the new policies are proving their worth.

Our organized Reserves are dissimilar to those of any other nation. We had nothing like them in mind before the World War, and in their development we have been sailing an uncharted sea. It is not unnatural that unforeseen shoals should delay our progress from time to time. The problems have been quite as great as are the potentialities of the Reserves in the scheme of national defense.

As each problem came up we had no note-book of past experience to consult for a solution. It was a case of trial by experiment, and when a proposed activity failed to survive the fire of practical usage we abandoned it. For example, the War Department has recently modified the policies so as to permit a corps area commander or chief of arm or service to certify for reappointment with eligibility privileges any Reserve officer whose civil occupation directly and immediately qualifies him for his military grade. Thus a practicing surgeon who is assigned to a base hospital may be certified for reappointment, but, if he be assigned to a medical regiment, he must meet the full requirements of regulations. The War Department has also modified the regulations so as to enable a Reserve officer who is reappointed without eligibility privileges to regain them at any time he meets the requirements. In a word, the new policies are constantly under study, and improvements are made whenever their need is demonstrated.

The National Defense Act indicates that the Officers' Reserve Corps should be fundamentally a military body, developed on military principles, for military service in war. Other patriotic organizations or associations accomplish their primary purpose when they work to create interest in national defense, but the Officers' Reserve Corps, as a major part of the commissioned personnel of the Army of the United States, has the primary mission of fitting itself for service in the theater of operations and in the zone of the interior.

I question whether any provision of the National Defense Act of 1920 meant more to national security than recognition of the fact that dependence could no longer be placed upon unorganized reserves of manpower. Mobilization of the national armies today would find us months ahead of the World War schedule.

All of us have vivid memories of thirteen years ago, when we were preparing for war. We can remember the alarm we felt as these preparations re-

vealed various weaknesses in our educational, governmental, and military systems. We can now contemplate that those glaring defects and weaknesses were not overcome by making sudden improvements in those systems. The emergency did not permit of such reorganization. The storm was upon us and we had to plug the leaks—we could not build another and a better ship. We rode it out through our resourcefulness and by mobilizing our great latent reserves of character, energy, and skill. These we made use of to the last drop and the last pound —without stint or measure. And because we made use of them we won. With victory came demobilization, not only of material resources but of moral resources.

Our reserves of character and leadership once more become latent and we seemed to accept, as a nation, the assumption that the training, education, business experience, and leadership of our educated men were only to be called on by the nation for emergency use. I have always looked upon that demobilization of the incalculable assets of the spirit as a great tragedy. Why should not these reserves of character and leadership be mobilized more completely in times of peace for continuing activity in behalf of the country's welfare.

We all appreciate that the strength of all forms of government alike, whether against foreign attack or internal disintegration, has for its foundation the spirit of the people. Its strength depends on their moral fibre, on their determination to maintain their own institutions, on their devotion to high ideals, and on their willingness to make sacrifices for and to serve the common weal, not only during the inspiring days of war, but during the less spectacular days of peace. We all admit the vital importance of such a spirit, but do we perceive that the spirit of the people can not accomplish everything? Just as government depends on the people's spirit just so does the maintenance of that spirit depend on leadership, and in the final analysis that form of government is likely to prevail and prosper that produces the best and most constant supply of leaders.

I cannot conceive of the members of the Officers' Reserve Corps merely standing by for emergency duty. That way lies stagnation of the spirit, both for the individual and for the community. The most persuasive and most imperative of all opportunities which make up our country is the opportunity for leadership. It is the duty of every sincere citizen to lead, so far as in him lies, and to do his full share in the maintenance of the principles upon which our Government is founded.

Modern Infantry Weapons

The Trend of Development of Infantry

MAJ. GEN. S. O. FUQUA, Chief of Infantry[1]

OUR Infantry organization, equipment, efforts, and results obtained in the World War, are well known. This paper has for its object the outlining of recent Infantry developments, and problems and projects for the future.

I shall explain our tentative reorganization, various mechanical improvements that are being made in our weapons, and the resultant minor changes in tactical principles. But I should like you to bear in mind that all projects are closely allied and that everything that the Infantry is doing has for its sole objective coordinated battlefield efficiency.

All studies, experiments, and tests to which I shall refer have been made at our two Infantry Schools at Fort Benning and at Fort George G. Meade. These schools have been the media by which, during the past ten years, we have standardized our training, equipment, and methods; and I feel that the progress made by the Infantry is primarily due to these splendid institutions which we believe have no superior in any army. And in substantiation of this statement, I invite you to compare the progress that our Infantry has made with the results accomplished by the Infantry of any foreign army since the war.

Much has been said on the subject of complete motorization and the practicability of the use of motors for combat trains and heavy weapons; this phase is now being given a complete test, especially with reference to motor vehicle types, by the 34th Infantry at Fort Eustis. Motorization and mechanization are confused. Motorization, insofar as Infantry is concerned, is in the solution of the transportation problem; it has no relation to the mechanized fighting units whose weapons are borne on armored self-propelled vehicles. The motorization of the Infantry is for the purpose of moving its units quickly to a given point, where they are detrucked and enter the combat area properly armed and equipped for foot movements and ground action in accordance with the principles of infantry combat.

The role of Infantry is unchanged. It is the basic force of an army whose mission in the end is to destroy the enemy's field army. Infantry's mission—during those periods when the neutralization fires of the aircraft and artillery have ceased or lifted—is the employment of its own weapons in neutralization and attack fire to beat down enemy resistance in gaining, exploiting, and consolidating ground. Therefore, it must be so organized, armed, equipped, and trained that it may be utilized tactically in attack or defense—temporarily or permanently—changing as conditions arise from one of those combat phases to the other, employed day or night under all

[1]Extracts from a lecture by the Chief of Infantry before the War College Class.

conditions of weather and clime and over all varieties of terrain, with ability to take cover, and, in the end, to engage in hand to hand combat. Infantry is the only arm organized, equipped, and trained to meet all the requirements of the battlefield.

ORGANIZATION

Analysis of our reorganized Infantry regiment shows that we have attained our objective, namely, a maximum increase in firepower with a minimum increase in personnel; our new regiment numbers 3,576 officers and enlisted men, while our former organization contained 3,008 officers and enlisted men.

In speaking of this reorganization project, I want to emphasize the fact that the War Department directive called for an organization using our present weapons and equipment; no projects under development, or even those developed but not standardized, were to be considered. The unit would be equipped as if it were to take the field tomorrow.

Our Infantry brigade still retains its two regiments of Infantry, and the Infantry division two brigades. The regiment of 155-mm. howitzers has again been made an integral part of the division, while all air combat units have been removed from the division.

TANKS

Our present light tank equipment consists of 947 American Renaults. This is essentially the same tank that was used during the war. Many improvements have been made and this type would furnish our light tank armament should M-day occur tomorrow. It is an execellent weapon, but lacks speed, and its age makes dependability in all cases doubtful. Experiments are in progress with the Franklin air-cooled engine for this tank and the results thus far are very encouraging. The advantages of the air-cooled engine are obviously decreased in weight, with added power, simplification of maintenance, and elimination of the possibility of freezing.

No medium tank forms a part of our standard equipment at present. This project was initiated in 1919 and experimentation still continues. In 1927, a medium tank was completed and given a service test. It was found to be underpowered and did not develop the desired speed. This tank weighs about 23 tons and is considered too heavy for most of our highway and railway bridges to accommodate. A lighter medium tank, 15 tons, has been manufactured by the Ordnance Department and is at present at Aberdeen Proving Ground undergoing test. Its armament is one semi-automatic three-pounder gun and a caliber .50 machine gun on a combination mount, a semi-automatic one-pounder and a caliber .30 machine gun on a combination mount, and an extra caliber .30 machine gun to be mounted on a bracket in rear for antiaircraft protection in bivouac or on the road.

The most striking tank of this class yet to be developed is the Christie tank weighing between 12 and 14 tons. This tank has many desirable features. Among them is the ability to run either on wheels or on tracks, thus providing strategical and tactical mobility and obviating the necessity for a tank carrier. It also possesses an independent spring suspension for each wheel, thereby preventing wear and tear on the machine, providing safety

for the crew, and stabilizing the gun platform and so increasing the efficiency of the gun fire from the tank. Specifications require the tank to attain a speed of 40 miles per hour on the road, 30 miles per hour on open terrain, and 20 miles per hour on a 10 per cent slope on open terrain. The contract has been let for one of these vehicles and delivery is expected about November 1, 1930. Money is in sight for the purchase of five additional ones if the model type meets our infantry requirements. In addition to this, the Ordnance Department has been directed to develop within the next nine months an eight-ton tank of the wheel and track type.

One hundred heavy tanks, 40 tons each, form our heavy standard tank equipment. No experiments are being made at present in this field, as lighter tank development is considered more important and has been given priority. However, this type is being studied and design will be ready for the manufacturer should their need be required in any particular situation.

The practicability of converting commercial tractors into tanks is being investigated. Several caterpillar tractors have been received by the Tank Board and experimentation to convert them into improvised tanks has been in progress for several months, with results which are not promising.

The advantages of being able to use commercial chassis in producing tanks in an emergency are obvious. The studies thus far indicate that many commercial tractors are not adapted for conversion into tanks. However, much has been gained by our experimentation in this field, as the representatives of the tractor companies have taken home with them new ideas for commercial tractor types which will be of assistance in this field should we be compelled to turn to those for quantity production in an emergency. In general, the following characteristics of tractors make it difficult to reconcile them with characteristics found desirable in modern tanks; low speed, insufficient power, low ground clearance, high center of gravity, insufficient strength to carry armored body, short length, and poor shape of track for negotiating difficult terrain. Unless there can be some marked changes in present designs, it is a question whether the time and expense of converting a commercial tractor into a tank will be greater or less than constructing a tank of approved design.

The subject of tank arms has been given great consideration. Experimentation with the 37-mm. semi-automatic gun, the 1.85-inch semi-automatic gun, and the caliber .50 machine gun, has been in progress. There has also been developed a combination 37-mm. and caliber .30 machine gun mount, which was the armament of the Ordnance tank, type T1E1, and is that of the Christie model. None of this armament has been standardized and the World War tank armament remains unchanged—caliber .30 machine gun and 37-mm. gun separately mounted. There is experimentation in progress of arming tanks with unmounted Thompson machine guns for protection of crews should tanks become disabled.

WEAPONS

Efforts to procure a more satisfactory 37-mm. gun have resulted in the manufacture of one gun which is at present being tested at the Ordnance

Proving Ground. The principal improvements are a hinged split-train carriage suitable for a pack mount, and a free 67 degree traverse. The elevating mechanism and the mounting of the carriage have also been improved. A 75-mm. breech-loading mortar has been designed and standardized. A smooth bore barrel has recently demonstrated increased accuracy over the rifled mortar at maximum ranges and has permitted shorter minimum ranges, two very desirable characteristics. Funds have been appropriated for the purchase of a limited number of these weapons.

A wheeled machine gun mount has been developed and standardized. The major improvement over the old mount is the provision at all times of a T-base permitting firing on ground or aerial targets with minimum delay, either on wheels or with wheels removed.

Notable progress has been made in the development of a semi-automatic shoulder rifle to replace the present service rifle. A caliber .30 semi-automatic shoulder rifle would be particularly desirable in view of the present ammunition used by the Infantry, and the fact that our automatic rifles and machine guns are caliber .30. A caliber .30 semi-automatic shoulder rifle has been manufactured to determine whether or not it is possible to produce, within a reasonable weight limit, a rifle that will meet with service requirements.

The antitank weapon which is considered satisfactory by the Infantry at the present time is our improved 37-mm. gun with increased muzzle velocity and the traversing mechanism above referred to. This weapon, with our new armor-piercing ammunition, penetrates one inch of armor up to 500 yards, and no light or medium tank will carry any greater thickness in armor unless its speed is materially reduced. This gun is considered our best antitank weapon. The caliber .50 machine gun, while not possessing armor piercing properties at all ranges, has, due to its initial velocity and rapidity of fire, possibilities as an antitank weapon. Experiments, however, in firing at light tanks and towed targets have shown that this weapon and its ammunition have not been developed to the point which warrants standardization as an infantry weapon.

The question of an accompanying gun for the Infantry has been given much thought and some experimentation. The fact that such a weapon is needed was demonstrated during the World War. It is expected that further experiment will determine whether the self-propelled armored mount, the animal drawn, or the pack mount is the proper solution of this problem. A self propelled mount is at present being tested at Fort Benning.

A machine rifle to replace the Browning automatic rifle is considered highly desirable, and experimentation in this field continues. This weapon, however, must be capable of aimed shots from the shoulder and of being transported by the troops to the front line. The caliber of this weapon and its development are dependent upon the final decision as to the caliber of the semi-automatic shoulder rifle. Funds for the project were included in an appropriation bill for 1931.

TRANSPORTATION

The development of an infantry carrier to transfer personnel and

weapons to the battlefield, and particularly when infantry is operating as part of a mechanized force, is considered essential. Our Ordnance Department is manufacturing a chassis, a wheel development project, and also a combination track and wheel vehicle, which are expected to be completed some time this year. The British army has had considerable success with the Carden-Loyd carrier. Negotiations are now under way whereby we will probably rent one for a period of 30 days.

In addition to the track vehicles noted above, experiments are in progress at Fort Benning with Chevrolet and Ford-Coleman cross-country wheeled trucks of standard commercial design. The advantages of this type of vehicle lie in simplified procurement, economy in supply, and increase in strategical mobility. In the animal-drawn transportation field, an experimental water wagon has been developed. This consists of a 200-gallon tank mounted on an ambulance chassis. On good roads the load can be drawn by two horses.

COMMUNICATIONS

An experimental radio transmitter and receiver set has been recommended for adoption as standard. Its distinguishing feature is the generator which eliminates the battery problem. A hand set telephone is at present being tested. Its advantages lie in its decreased size and weight and obtainable commercially and equal audibility in comparison with the present set. Experiments with caliber .45 tracer ammunition for signalling at night have shown promising results. The desirability for such a signalling agency is found in its convenience, speed of operation, elimination of special equipment. The fact that we always have the caliber .45 pistol with us, and that it can be used as an incendiary agency and for target designation further recommend its use.

SMOKE

An experimental rifle grenade of the rod type with a filler has been developed and sent to the Infantry Board for test. It is believed that it will produce a fair volume of smoke for 55 seconds.

A number of candles of the universal type with smoke and lachrymatory fillers have been tested by the Infantry Board. The distinguishing feature of these candles is the uniform size of the container, approximately the size of a commercial Campbell's soup can. The tear gas candle has been recommended for adoption as standard for use in domestic disturbances. The smoke candle tested, while generally satisfactory, required some further development in order that a larger volume of smoke might be produced initially, also a mixture that will maintain an effective flow of smoke for two minutes or longer.

A smoke projecting device for the Renault tank has been studied and tested. Further development has been postponed awaiting results of the efforts to secure a speedier tank.

DEVELOPMENT IN TRAINING

The most important phase of Infantry training which has been stressed recently has been the study and development of effective means of securing prompt warning of the approach of attack aviation, methods of delivering antiaircraft fire by all In-

fantry arms, and the determination of the most suitable formations.

Training Regulations issued more than a year ago have formed the basis for this training. Many Infantry regiments have tested these regulations and reports indicate that they are sound and prove conclusively that rifle, automatic rifle, and machine gun fire is very effective against low-flying aircraft. It is believed that Infantry can protect itself against low-flying attacks to the extent of confining them to the most desperate missions or to driving the aircraft to higher altitudes where their effectiveness will be limited.

Present regulations will be subjected to another year of test before revision will be attempted.

Machine gun antiaircraft defense has been subjected to study and test in the past year. These have developed methods of instruction for machine gun units and have resulted in development of antiaircraft sights for machine guns. The methods of instruction and the sights are being issued for test by designated Infantry machine gun units before being standardized.

The subject offered many perplexing problems. First, an adapter was essential to permit the gun to be shifted from the ground firing position to the antiaircraft position, and, the reverse. Second, came the question of the antiaircraft sight, and, then a method had to be developed for firing reduced charges for target practice in the machine gun. These problems have been tentatively solved.

COOPERATION BETWEEN INFANTRY AND THE AIR CORPS

The participation of air personnel in the antiaircraft training of Infantry has increased greatly during the last year to the mutual advantage of the two arms. It is aided materially by the Infantry liaison officers at the Langley Field School—two in number—in addition to two who take course—who now teach the Infantry side of the combat problem. A further development in antiaircraft work has been the detail by the War Department of an Infantry—Air Corps—Ordnance Board to investigate the vulnerability of airplanes and the effect of airplane weapons upon infantry formations, and of infantry weapon fire on low-flying planes. The work of this board should be productive of much good.

The interchange of officers between air units and the ground arms, directed by the War Department, February 14, 1930, provides an opportunity for close association of Air Corps and Infantry officers that should establish a sound, mutual understanding and lead to intelligent tactical cooperation.

Even prior to the War Department instructions just mentioned, an exchange of officers between Fort Benning and Maxwell Field for "contact purposes" of two weeks' duration was established by the commanding officers concerned with the approval of the Chief of Infantry and the corps area commander. The cordial cooperation of the air personnel at Maxwell Field in the execution of missions desired by the Infantry School has been a source of great satisfaction. In furtherance of this cooperation, it is planned to send, in November, the students from the Air Corps Tactical School at Langley Field to Fort Benning for the purpose of letting them witness Infantry tactical demonstrations, to put on an air demonstra-

tion, and to discuss Infantry-air matters in general.

As a means of further familiarizing Infantry officers with the Air Corps, and particularly of increasing their ability to observe intelligently from the air, a study has been made, looking to the introduction of an aerial reconnaissance course at the Infantry School. The course would be open to volunteers from the Advanced Class and would require approximately 12 hours in the air.

MOTORIZATION OF INFANTRY

Nine of our Infantry regiments have been motorized in part. This motorization, in general, is a substitution of motors for the animal-drawn vehicles in the field and combat trains. This has been accomplished with such equipment as was available from war stocks and has resulted in a lack of uniformity of type of equipment, and in some cases vehicles not particularly suitable for infantry needs had to be included. The motor vehicles in these regiments are capable of operation on good roads only, and in the event of active field service, modern equipment would have to be supplied to obtain effective motorization.

The 34th Infantry has been completely motorized with modern vehicles and is now carrying on exhaustive experiments under the jurisdiction of the Commanding General, III Corps Area. It is believed that this test and the test now going on at Fort Benning under the supervision of the Infantry Board, should be sufficiently conclusive as to determine the most desirable types of commercial manufacture motor vehicles suitable for the Infantry.

IMPORTANT DEVELOPMENT PROJECTS

Of the problems above outlined we feel that the most important are: (1) antiaircraft defense; (2) antitank defense; (3) the development of a dependable fast tank; (4) the development of a semi-automatic shoulder rifle.

The subject of antiaircraft defense we believe to be on a fair road to satisfactory solution. It must be borne in mind that the airplane is a weapon of opportunity, for inclement weather prevents its operation. Experiments in our Infantry regiments convince us that, using existing armament, the Infantry will not permit low-flying aircraft attack. Incidentally, the weapon most effective is the rifle, augmented by the fire-power of the automatic rifles, machine guns, and pistols. The fire from 1751 rifles, 324 automatic rifles, 64 machine guns, and 1502 pistols will undoubtedly be a very disturbing factor to a low flying attacker. Our experiments prove that hits can be obtained with certainty by platoons of riflemen and automatic riflemen up to 700 feet elevation, and within 200 yards horizontal range, and that the danger zone extends up to 1,250 feet. Machine guns can be expected to register hits up to 1,250 feet elevation and 300 yards horizontal range, the danger zone extending up to 1,750 feet. One regiment of Infantry reports, in 28 flights with towed targets, 12 per cent hit in slant ranges up to 1300 feet, and in 48 flights, 8.7 per cent hits in slant ranges up to 1750 feet.

The Infantry is convinced that at the lower elevations airplane attacks on ground troops will cause such loss that the target will be considered un-

profitable, with the consequence that airplane attacks will be limited to altitudes where their destructive effect on Infantry will merely be on a parity with other battlefield dangers.

ANTITANK DEFENSE

The problem of antitank defense still admits of much study and experiment. However, in approaching the question we know that the gun is the natural enemy of the tank. The tank can never successfully enter into a gun versus armor race. The gun will invariably be victorious. Although the speed of the modern tank will materially reduce its vulnerability, the tank has its own race, namely, armor versus speed. Heavier armor means increased weight and decreased speed. Armor, therefore, will be controlled by the speed factor. The Infantry's present problem is to find the smallest caliber weapon which will effectively disable the modern tank. Although experiment has not been fully completed, indications are that the 37-mm. gun can successfully disable the modern tank with its present armor. The .50 caliber machine gun, with its rapid rate of fire with armor piercing ammunition, has been found to be very effective against tanks at mid-ranges. As stated before, the gun and ammunition need to be brought to a higher state of perfection before adoption is justified. Briefly, the Infantry problem lies in providing a gun with sufficient mobility to move it quickly to meet a tank attack from any quarter.

DEVELOPMENT OF A DEPENDABLE FAST TANK

The tank was introduced primarily as the antimachine gun weapon. Its object was to restore the power of the offensive. During the World War, tanks, owing to their slow speed, were held close to the foot troops and habitually immediately preceded them into the attack. Modern Infantry tanks have much greater speed and consequently will not hereafter necessarily be held close to the Infantry units. Modern Infantry tanks may attack hostile troops from front, flank, or rear.

Greater speed will afford greater safety to the tank and personnel, permit it to gain earlier contact with the enemy after the artillery fire is lifted, thus holding the enemy under cover and denying him the opportunity of firing upon the advancing foot troops. All elements of Infantry would be benefited by increased speed of tanks. As previously stated, in addition to developing a satisfactory light tank, the Infantry has the problem of securing a sufficient number of these tanks to permit tactical test of a suitable combat unit as a basis for determining the correct tactical doctrine.

SEMI-AUTOMATIC SHOULDER RIFLE

Our progress in this very important project has been most encouraging. I can say with more than reasonable confidence that the adoption of a semi-automatic shoulder rifle for the Infantry is but a question of time. Present studies indicate that the adoption of such a rifle will not materially affect organization of our rifle company. The firepower will be increased, but then there is the question of ammunition supply to be dealt with.

As brought out in the case of the fast light tanks, a unit must be completely equipped with a weapon and put in the field for a test before any definite conclusions can be reached regarding its effect on organization or

its influence on tactical principles. Upon the adoption of the auto-loading shoulder rifle, a redistribution of the automatic rifles in a rifle company may prove advisable.

CONCLUSIONS

I should like to visualize the role of the Infantry of the future. Some see the Infantry fighting behind motors—a mechanized arm; others see a group of soldiers lightly armed and equipped, used entirely defensively—that is, brought up to occupy a position and defend it. These schools of thought visualize a war of machines.

The Infantry of the future, I believe, will employ motor transportation for its movement to the battle area. From the development to the launching of the attack, its formation and movements and the artillery supporting fire will, in general, follow the principles now taught. During this stage the tanks will reach their assembly points. At H-hour the attack by the foot troops is launched, the accompanying tanks co-operating. Their mission is direct assistance to the advance of the foot troops. Their action consists in dashing at top speed on designated local objectives which are considered key points of the enemy's defense. On gaining their objective they cruise on or near it until the foot troops arrive when the tanks proceed in a similar manner to the next objective. The advancing foot troops, supported by the artillery, make every possible use of the coodinated fire of all of their weapons. Gas, permitted by treaties, may be used under certain conditions to neutralize local resistance, and smoke to blanket enemy observation or screen movements. As the Infantry fights its way through the enemy's position it consolidates and prepares to hold the ground it has gained.

There will be cases where, due to adverse conditions, the use of tanks and possibly motors will be restricted or impossible. Our Infantry must then be able to carry on without their assistance.

In closing, let me say to those who see the Infantry no longer our basic force on the battlefield of the future, that it is now our basic arm, that, the very weapons and methods-motorization, chemical agencies, automatic and machine weapons, and armed armored track vehicles—that some claim will replace Infantry, will be used by Infantry to perform missions of gaining and holding ground.

Other armies may reinforce but will not replace the Infantry.

In visualizing the missions of other arms and agencies,—aircraft, heavy machine guns, artillery, chemical installations, cavalry groupings for flank and follow up missions, mechanized force, and all of their bases, command posts and communication systems—let us not forget that they must have possession of ground before they can be employed and effectively fulfill their missions. This ground must be taken and helf by the Infantry—the same Infantry that has existed—exists now—marching to battle with the same role—but with improved arms and equipment.

After General Fuqua finished his address before the War College, the following discussion took place:

Q. May I ask whether any units such as the ammunition train of the field artillery brigade have been contemplated in the Infantry brigade, due to the increase in fire power and necessity for more ammunition?

A. We have ammunition in our combat

train that will get the ammunition up to us. I do not know the exact organization of the ammunition train in the Artillery, but we have ammunition with the division.

Q. What I meant was that this artillery train is an organic part of the brigade and manned by artillerymen. I was wondering whether the Infantry had any reason for adopting such an organization.

A. Our ammunition is carried in a combat train which is an integral part of our battalion organization.

Q. One point I did not get was that certain weapons were moved to higher echelons.

A. The air corps, forming an integral part of the division, has now been moved to a higher echelon. What it will be, I do not know, probably corps or army; corps at times, but army normally, I would say.

Q. What about our old friend the hand grenade?

A. We are very proud of it and are training with it. It is one of the eleven weapons we speak of with which the Doughboy is armed. There have been some new developments in it in connection with the safety factor. Its power, however, is practically the same as that we used during the World War. It was used very effectively, I understand, with the rifle grenade in Nicaragua. I believe it will be very helpful to us in warfare of that general character.

Q. Will you tell us something about the organization and equipment of the new mechanized force?

A. I am sorry, but that belongs to another department.

Q. I understood you to say that in this reorganized Infantry regiment all the field trains are motorized.

A. Correct.

Q. How about the combat trains?

A. They are not motorized, they are horse drawn. I might say in that connection that we have nine regiments that are now partially motorized. We have one regiment completely motorized. At the end of this year the reports will come in from the 34th Infantry, and at that time we will be able to decide as to what type of motorization will be adopted. I believe that then there will be commenced the gradual replacement in these nine regiments with the new equipment adopted as the proper type for the 34th Infantry.

Q. This increase in automatic weapons will increase your ammunition supply materially and make it more difficult?

A. It ought to.

Gen. Connor: Will you permit a noninfantryman, but one who is much interested in the subject, to give a view in regard to the organization and ask a few questions? The proposed organization of the infantry regiment that came out in the service journals was rather disturbing, I think, from several points of view. Although it was not adopted, it brought the idea very prominently to my attention, and the modified regiment still has things about which I would like to ask some questions. I am wondering whether the control of the division as a combat unit by the staff has been great enough and whether they have exercised enough thought and study in the matter to handle the matter as a whole, or whether due to a lack of a handling of the matter on their part, the different arms—the Infantry for instance—has been forced to act by itself and independently of the other arms of the service, in order to bring about certain conditions of fire and put into effect certain weapons which, through past experience, it feels to be necessary. From the higher point of view we have always looked upon the division as the first self-contained unit, and within that we looked for fire power and movement. Up to recent times the fire power was provided, in general terms, by the artillery and the movement by the Infantry, but there has been a tendency since the war to more and more put a considerable amount of that fire power in the Infantry and even down as far as the battalion. The loading up of the unit that has always been looked upon as the moving part, I think is a thing that might be disturbing to anybody. If the infantry soldier, if the infantry company, battalion and regiment—either the individual with his 65 or 75 pounds or the company with its various weapons, are so loaded down that they cannot advance, that they cannot have easy movement, then we will lose a lot of the offensive capacity of the division. The heavy machine gun in most of its essentials is a defensive weapon, and in the average company the heavy machine gun retards, rather than advances, the Infantry movement because of the amount of stuff that has to be gotten forward and the lack of opportunity to use it, and the increase of these weapons seems to me to hold down the division. It seems to me the self-contained unit has gone down into the infantry division and nearly to the battalion. I know you need the artillery,

the automatic, the semi-automatic, the machine gun, the 37, the 75 howitzer, and it is practically admitted there should be an accompanying gun with the 75, and I know most regimental commanders say frankly they are going to organize a mounted detachment in order that they may have some cavalry with the regiment. It seems to me the tendency is all toward things that are needed, but the tendency is to develop them in a place where they are going to destroy the speedy movement and suppleness of the one arm that should have it and the one we must look to for movement while the others give the fire power.

A. I appreciate what you say and I know those factors have been given great consideration in the studies and experiments made last year by the Infantry Board, using the 29th Infantry as a laboratory. It is very difficult, of course, to know just where to draw the line, but we believe that with the troops at the front there must be something in the way of a short range gun. The artillery cannot fire ranges approximating 250 yards. Experience has shown the necessity for some weapon of that general character. If it is going to be used, it ought to be in the hands of the personnel who are right on the spot. For that reason I believe it is sound to put the 75 mortar, with a minimum range of 300 yards, up with the troops. It is well back at regimental headquarters and need not go up to the combat area unless necessity requires. The same thing is applicable to the 37; if any fire is to be employed against fast moving tanks, the weapon has to be up there for use. As far as increase in machine guns is concerned, there has been only an increase of four guns in the battalion organization. There has been, however, an increase in the machine gun unit of the regiment, which is held back to meet different conditions which may require infantry fire. I have seen maneuvers where the machine gun was employed and they were right up with the Infantry and were used at ranges very close.

General Connor: I quite agree that all these things are needs. I was simply bringing out the question of where they should be. Of course that is an open subject. The word "pivot" is a word that in itself is disturbing. It denotes a centering rather than a forward movement and it seems to me it has a tendency to copy the French theory that everything centers about the machine gun. We all know that when the enemy is firing at you, any excuse is better than none for lying down. If our men get the idea of the four rifles and one automatic weapon, what I fear is that they might get the French idea that the four rifles were there to defend the automatics rather than that they were part of the aggressive unit to go forward. In other words, pivoting about the automatic, that they might get instilled in their minds the fact that they centered around the automatic instead of the whole machine going forward.

A. The word "pivot" may be disturbing but the idea is to furnish the fire power the base of fire to permit the Infantry to gain ground and go forward.

The Genesis of the Medal of Honor

From the Note Book of "General Experience"

THE "Order of the Purple Heart" was designed by George Washington as a decoration for gallantry in action. For some reason it seems to have been soon discontinued, and the United States Army possessed no decorations until the establishment of the Medal of Honor.

On July 12, 1862, the Congress passed the following resolution:

> That the President of the United States be, and he is hereby, authorized to cause two thousand "Medals of Honor" to be prepared, with suitable emblematic devices, and to direct that the same be presented, in the name of Congress, to such non-commissioned officers and privates as shall most distinguish themselves by their gallantry in action and other soldier-like qualities during the present insurrection.

It will be noticed that, as first authorized, the Medal of Honor was for enlisted personnel only. Also, it could be awarded for "soldier-like qualities" as well as for gallantry. As a result of this section, numerous awards were made for trivial things—in one case all the members of a regiment were granted the Medal of Honor for serving beyond the expiration of their enlistments. In later years a careful recheck of the earlier awards was made and a number were rescinded.

Changes in the authority for Medals of Honor soon set a high standard for its attainment, and it earned the reputation of being one of the most difficult decorations to win in the world. To earn the Army Medal of Honor, a soldier must, in actual conflict with an enemy, distinguish himself by gallantry and intrepidity at the risk of his life above and beyond the call of duty.

The Value of Military Training

CARDINAL FAULHABER, who more than thirty years ago served with the 19th Bavarian Infantry, has written an article in the JOURNAL published for former members of the regiment, in which he shows the value of military training.

His Eminence shows that he knows what it means to be under a bad-tempered sergeant-major. He writes:

"Although we did not realize it when serving, the time spent in soldier's armor was a training for life. Rising when the bugle sounded, returning to the barracks when the trumpets were blown, falling in punctually at the appointed minute spotless from top to toe, keeping silent and not wincing when the sergeant-major was ill-humored or the noncommissioned officer discovered a rust stain on the barrel of our guns, setting our teeth when the stiffened hands could hardly hold a gun, all that furnished those who took serving in the Army seriously with many a thing useful in life; a sense of punctuality and order, an understanding for superior authority, that spirit of soldarity which goes shoulder to shoulder with the fellow citizen, the manly courage of confessing religion, which gives to God what is due to God."

The Army Builds Its Own Telephone Systems

MAJ. GEN. GEO. S. GIBBS, Chief Signal Officer, U. S. Army

THE permanent military establishment of the United States includes a great many fixed institutions where the Army lives and where it does its work. There are some 139 army posts where troops are quartered. There are 15 supply depots, nine arsenals, many separate air fields, schools, training camps, and other activities. All of these establishments require modern communication facilities to conduct the daily business of modern life. In this respect they but conform to the practice of the commercial and social life of this age. They must move with the same speed as the other elements of our civilization. They deal daily with all of those elements and must conduct their relations by the same methods and in the same time. Likewise, the people of the Army are entitled to the same comforts and conveniences of modern living as are commonly found in the average American community.

It is to be expected, then, that there will be found in each such army establishment a modern telephone installation. No two of those places are of the same size. They vary in many characteristics. One is a factory, one is a seacoast fortification, another is a hospital, and another is largely a residential area. Each presents a separate problem. Some are fairly stabilized. Others are in temporary buildings that are torn down or moved about to meet changing needs. Still others are subjected to such general and radical changes as the replacement of troops of one arm by an activity of an entirely different sort. Fort Shafter was an infantry battalion post. It became a regimental post by the addition of tent and cantonment shelter. It then became a department headquarters with offices for a department staff.

Fort Hamilton was a coast fortification, the telephone installation being regarded principally as a part of the fire control system. This post is now an infantry garrison and also houses an infantry division headquarters.

Fort Monmouth is the home of The Signal School, of the Signal Corps Laboratories, and of three organizations of signal troops. Four years ago the activities were housed in war-built wooden buildings to the number of more than a hundred. The army housing program is now providing permanent shelter. The old wooden buildings are being torn down or moved to other sites.

Not only the post but the telephone system is in a constant upheaval. Those of you who have paid the telephone company the standard charge of one dollar and a half to move a telephone from one desk to another, and three dollars to move it from one building to another can imagine the cost for such services that would result in such a place if the system were owned by the telephone company. That condition will continue for a long time to come. When it passes there will be other,

perhaps unforeseen, military exigencies that differentiate the demands for telephone service in an army post from those of a civilian community.

The extension of privately owned water mains, gas mains, sewer lines, power lines, and telephone lines onto federal lands used as military reservations has brought a flock of troubles. Such questions as the title to right of way, the right of entry and behavior of employes, the right to make extensions, the maintenance of condition and appearance, the making of changes to meet military demands, and the fixing of rates, have made it desirable, if not entirely compelling, to adopt the policy that all such plant facilities installed within the boundaries of a military reservation shall be owned and maintained by the War Department.

TRAINING TECHNICIANS FOR WAR

It must be remembered that the combat equipment of the Army includes a very large number of telephones, switchboards, large quantities of wire and all other articles necessary to set up telephone systems connecting all units in the field. A very considerable number of men are in constant training in the Army in order that those field communication systems can be set up and operated in time of war. Men learn to do things by doing them. The installation, maintenance and operation of the telephone installations at the permanent establishments of the Army provide a splendid school for the instruction of men in that technical work. These are, in general, the reasons why the Army operates its own telephone systems; for economy, convenience, the provision of specialized military demands, and the technical training of personnel.

This policy is not a contradiction of the generally accepted policy against government ownership and operation of public utilities. In part, it is an exception, and the exception is fully justified by the explanation already given.

THE MAY, 1921, AGREEMENT

I say "in part," because certain classes of army telephone installations are operated entirely by the telephone company. Nearly ten years ago an important contract was entered into between the War Department and the telephone company. It is known as "The May, 1921, Agreement."

After a very thorough study, and many conferences between officers of the Signal Corps and of the telephone company, the terms of the agreement were reached. It recognizes that there are varying situations, and groups the Army telephone installations into four classes, as follows:

Class 1. Those at military establishments located on military reservations situated outside of the base rate area of the telephone company's exchanges.

Class 2. Those at military establishments located on military reservations situated inside the base rate area of the telephone company where such connections were in existence on June 2, 1921.

Class 3. Those at military establishments located on military reservations and used as fortifications wherever situated. Also those located at temporary camps.

All of the above systems may be government owned installations and connected by suitable trunks with the telephone company's exchanges.

Class 4. Those located within the base rate area of a telephone company such as depots, offices, warehouses, hospitals, recruiting offices, etc. Such installations will be owned

and operated by the telephone company and service provided on a commercial rental basis at the prevailing rate to the public.

PROVISIONS FOR NATIONAL EMERGENCY

Our participation in the World War involved the building of many mobilization camps, training camps and other temporary establishments. All of them required telephone installations to enable them to transact their business. Another mobilization will find us better prepared. Many such establishments are in a partial state of readiness.

It is certain, however, there will have to be expansions on a large scale and that many new places will have to be equipped. In order to provide for this contingency, an emergency agreement has been formulated that will take care of the emergency demands in a timely, methodical, and efficient manner. In accordance with the terms of this agreement, the telephone company will install and operate the required telephone systems at cost. The advantages of this arrangement are obvious. The telephone company has available the personnel and the equipment in quantities that should insure the greatest possible speed in installing the service.

This arrangement would obviate the employment of a large number of soldiers at home camps and leave them free to be sent to the theatre of operations.

The Army has had a long experience in operating its own telephone systems. The Signal Corps has maintained a skilled engineering force since the adoption of the telephone as a utility, and has standardized its technical practice along the lines of the most modern and accepted commercial practice. It is confronted with many difficulties, however. Most of these difficulties arise from the fact that the government can not do business as a business man or a commercial firm would do it.

A business man would investigate the market, decide upon a make of equipment that would best suit his needs, bargain for it, buy it, and thereafter maintain that uniform make of equipment, and hold the maker responsible for its satisfactory performance. The laws governing procurement for the federal government make this procedure impossible. Specifications have to be drawn so that any maker can bid. Awards have to be made to the lowest bidder for a suitable article, and the interpretation of what is suitable may be made by the accounting officers rather than by administrative heads. This may result, and has resulted, in the stocking of a multiplicity of spare parts and a maintenance problem that is not only difficult but extravagant.

In spite of these handicaps, the telephone installations operated by the Army have, in general, given good service and that service has certainly cost a great deal less than if it had been hired from a commercial company on a rental basis.

NEW TELEPHONES FOR NEW HOUSES

Just now the Army is in the midst of a housing program. Some fifteen millions of dollars worth of barracks, quarters, hospitals and other buildings are being built each year at army posts. The telephone system at each post has to be extended to include the new buildings. In some cases, where the proportion of new buildings is great, entirely new telephone systems are being installed.

The cost of the telephone plant is about two per cent of the main construction cost. So far, Congress has appropriated money for telephone in-

stallations in step with appropriations for other construction. However, the construction has been spread, piecemeal, over posts covering the whole country and has been limited to certain classes of buildings, mainly quarters and hospitals. Administration buildings, which should house the central telephone plant, are low on the priority list and may not be constructed for years. Thus we have a situation in which there is immediate need for the installation of a new central telephone plant in a permanent location, and no place to put it.

PAYMENT FOR TRUNK LINE SERVICE

Most army establishments house official activities where government business is done and also include homes where army personnel live. The telephone is a necessity for both. It would be absurd to operate two separate telephone systems,—one for official business and one for personal use. The ruling has been made that the personal use of telephones on an army system shall be paid for by the subscriber. At most posts the only item to be paid for is the rental of trunk lines to the city switchboard and the toll charge for connections to the same. The plan has been adopted of dividing this expense between the government and the subscribers for personal service on the basis of the proportion of each class of telephone given such service. Sometimes women telephone operators are hired to handle service for both classes and their payment proportioned in the same manner. According to Army Regulations decisions on these matters affecting personal service are handled by commanding officers. Thus it is that, depending upon whether soldier operators are used and on the number of outside calls made, this personal service may cost an army family as low as 17 cents a month at one post, or as high as $1.50 a month at another post.

AUTOMATIC PHONES FOR THE ARMY

In keeping with the technical trend of the times, the new telephone installations for the larger army posts have gone over to the machine switching or "automatic" system, replacing the manually operated switchboard. There are things to be said for and against both systems. Machine switching is not new. It is long past the experimental stage. It eliminates the human errors of the manual switchboard operator. Not being human, it can not do many things that an intelligent operator can do. It can not tell the commanding officer where the fire is, or waken the lieutenant to go on guard, or notify all of the captains of the regiment to report at once at the adjutant's office. In a post that is so large that all calls are made by number, this personal service is not practicable any way, and the machine switching system is suitable to its needs.

The saving in operators is an important, if not the deciding consideration.

The Effect of Weapons on War

MAJ. GEORGE S. PATTON, JR., Cavalry.

WHEN Samson took the fresh jawbone of an ass and slew a thousand men therewith he probably started such a vogue for the weapon, particularly among the Philistines, that for years no prudent donkey dared to bray. Yet despite its initial popularity it was discarded and now appears only as a barrage instrument in acrimonious debate.

Turning from sacred to profane history we find it replete with similar instances of military instruments each in its day heralded as the dernier cri —the key to victory. Yet each in its turn retiring to its proper place of useful though not spectacular importance.

Of yore, the chariot, the elephant, armor of various sorts, Greek fire, the longbow and gunpowder, to mention only a few, were each acclaimed. Within our memory the dynamite gun and the submarine were similarly lauded. Today the tank, gas and the airplane are aspirants for a place on the list.

In investigating the question let us begin by picturing, if we may, the cataclysmic effect produced on primordial society by the first savage who chanced to use a splintered rib as a means of giving point to his demands for a larger share of meat and women. How they gibbered round the half gnawed bison as with signs and gutterals they described the fight. How their hairy bellies palpitated as into the twilight of their minds the idea flickered that they too might be so stuck. "Romance is dead" they growled; "The day of tooth and fingernail is done."

Eons perchance rolled by before some timorous soul (?), fleeing in vain the questing menace of a prodding point, seized, in his agony of terror, a jagged stone and, squealing as he hurled it, saw the pikeman fall—and trembling, knew artillery was born. Continuing, it is easy to imagine the appearance of a wattled shield to fend the stone and, after the inevitable lag-phase, ages long when men thought dimly, such shields, in turn, made useless by the sling and throwing stick. Another lag and then the bull-hide shield restored the balance and robbed the sling and javelin of their lead. Consider how the scythe chariots were rendered innocuous by the simple means of opening the ranks to let them rattle through. Later at Zama similar tactics permitted Scipio to render futile the tankish charge of Hannibal's elephants; no longer a novelty and so dreaded as when Phyrrus used them. Again consider how, off Sicily the Roman Ravens (boarding bridges) confounded and destroyed the far superior Carthaginian fleet; not by their inherent value but by their devastating effect of their novelty. They, too, quickly passed.

The long struggle between armor and weapons abounds in like examples of alternating successes. When Cortez defeated an army by a charge of fourteen horses it was not the valor of his *caballeros*, but the fear induced by the novelty of their mounts, which routed

the Indians. In this case however the results attained are not traceable wholly to surprise. The rush of horsemen, and similarly of tanks, reawakens a submerged race memory of ancient

flights before the devastating rush of long extinct carnivora. We might continue almost without limit eliciting further examples, but repetition is wearisome and enough has been said to justify us in formulating an axiom. It is: The initial appearance of each new weapon or military device has ever marked the zenith of its tactical effect, though usually the nadir of its technical efficiency.

Surprise is the most ancient and most potent of military methods. Novelty is a form of surprise, and it is surprise—the fear of the unknown—not power, which appalls us.

The wrestling adage that there is a block for every hold applies equally to war. Each new device is invariably followed by its self-induced counter. The utilization of these new methods and their counters, these holds and blocks, is highly useful in that they add to our combat repertoire. But their employment is fraught with danger if, beguiled by their transitory preeminence, we place our reliance wholly upon them.

It is only in the writings of the romantic novelists that we find the hero successful through the knowledge of some secret lunge. In the duel or in the fencing room success goes to the man of many good attacks and sound parries; to the man who uses all the means at hand for the accomplishment of the end sought—victory.

Here it is well to pause a moment and examine certain characteristics which have definitely marked the march of military evolution. From the very beginning our gifted species has expended vast amounts of time and ingenuity in a strenuous though futile effort to devise safe methods of war; means of killing without being killed. Ardant du Picq sums it very aptly when he says: "Man engages in battle for the purpose of gaining victory, not for the purpose of fighting."

Defensive devices are an outgrowth of the same desire; the stone and the shield, the lance and armor, gas and the mask. Obviously the emotion back of these manifestations is love of life—an emotion which from age to age has grown stronger as the chances for its enjoyment have increased.

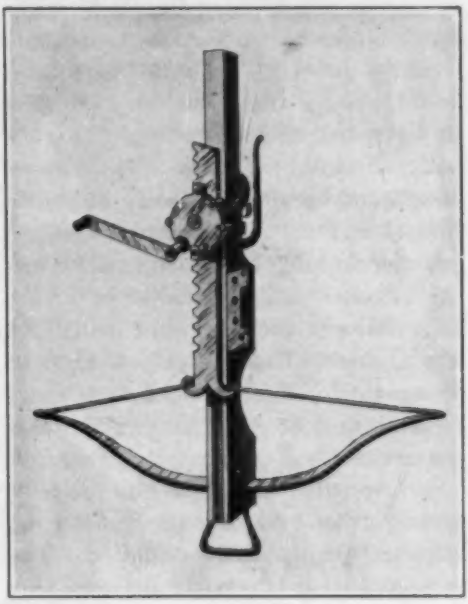
The hero is of truth a rarity. The most striking proof of this is found in the fact that throughout myth, legend, song and story he has invariably shared with that other rarity, beauty, the place pre-eminent. Much heroism exists, but few heroes. It is rather disheartening to observe that man in his efforts to reduce danger has enhanced

the requisites for courage necessary to withstand it. The sweat, noise, excitement and bodily contact of the close encounter act as a sedative on the brain, the seat of fear. After the rush has started it takes less hardihood to charge than to sit stolidly in a ditch awaiting dissolution via the impersonal belch of a dropping shell.

In attempting to assign just valuations to the latest lethal devices, we shall not go far wrong if we keep in mind the lessons of history. In the first place, living in a mechanical age we are prone to exaggerate the value of machines. Again, lay opinion is chiefly formed by the press, where novelty is always "front page stuff." Erroneous habits of thought also play a part. During the World War correspondents were not allowed at the extreme front where the actual bludgeoning of war took place. Necessity imposed on them the task of making copy of what they saw; guns and machines mostly; hence it happened that they put undue emphasis on these elements and so formed in the minds of their readers a habit of reverence for machines.

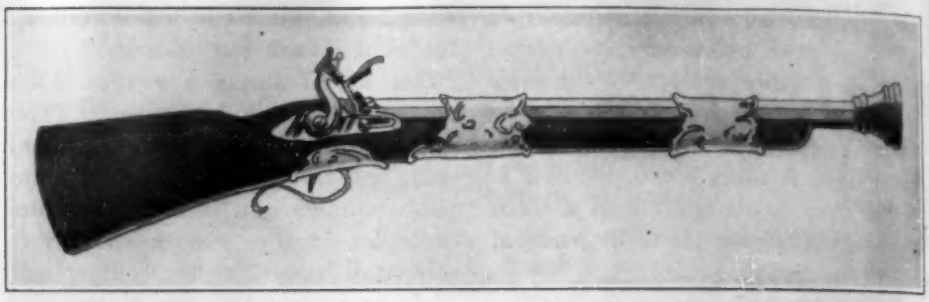
The romantic literature of the war, now as always, centers on the exploits of heroes. The unthinking imagine that in the future all machines will be operated by these rare individuals and that the phenomenal results attained by the few will be duplicated by the many. In sport we have Sande, Tilden and Jones, whose exceptional capabilities we admit and admire. Yet in war we fondly imagine whole armies of Sergeant Yorks and Guynemers. Popular antipathy to unhappy endings induces writers to have their heroes "Live happily ever after," whereas in fact only too many citations for valor end: "For this act he was awarded a Medal of Honor, posthumous."

The use of gas as a weapon is abhorred by most civilized nations. Those who in future first resort to it may well find themselves condemned by public opinion. In short, it is against the rules. But will such rules, such scraps of paper, deter belligerents? We fear not. When two highly paid athletes contend for honors in the squared circle they too are bound by rules; so much so in fact that of late rules have proved more potent than blows. War is not a contest with gloves. It is resorted to only when laws, that are rules, have failed. If some adversary gasses us, we can under the rules, gas him. Hence it is not



brutal, but merely intelligent, to investigate the probable future military effects of gas.

What are we to expect? Casualties, certainly, destruction, no. Gas is no more devastating to the prepared sol-



dier than were stones to the shield-guarded barbarian. It is a powerful and effective weapon, but the day of its omnipotence and the day of its birth were one. The gruesome pictures of whole populations writhing in their last agonies midst the fumes of an all-destroying vapor, are "bunk."

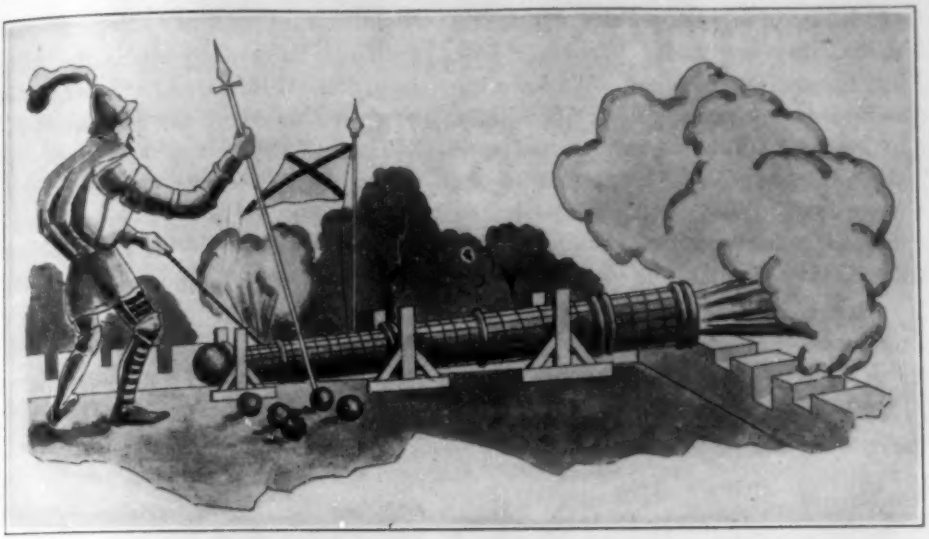
Setting aside the chemical difficulties and mechanical complications inherent to such an act, we have a much stronger and simpler reason for this conclusion. For centuries all wounded and such unwounded prisoners as were valueless as slaves had their throats cut. No one was shocked; it was the custom. Finally it occurred to some altruistic and thoughtful soldier that while the practice was excellent so long as he was the victor, it had its drawbacks in the not unlikely event of his being the vanquished. The notion of humane treatment for the foe was born. Years of use sanctified the idea; it became the custom. Yet the horrid thought pops up that help for the helpless sprang from love of ourselves, not of others; from fear of retaliation. The same situation effects the noisome idea of gassing noncombatants. It is contrary to our developed sensibilities, it will produce retaliations; it is not a safe method of war.

Shortly after the Spanish War Col. T. R. Roosevelt wrote a book called "The War in Cuba." Mr. Dooley, in discoursing on it, said: "I have but one suggestion to offer the colonel, he should have called his book 'Alone in Cuba.'"

The same remark might justly be applied to those who now proclaim the airplane as the sole means of waging future wars. They think that they will be alone in the air. So far as a major contest is concerned this notion is absurd. The enemy will be there too, and it will be a case of dog eat dog. When planes attacked us in France we hid and prayed, now we shoot back and with an ever increasing effect. There is an old saying in the Army that no pursuit is so hot as that of an unresisting foe. When the foe fights back ardor slackens. Have you ever noticed the fervent manner in which a terrier chases a cat until she turns, and then how often he remembers that he has an immediate engagement elsewhere.

Air attacks will be numerous and bloody; such is the nature of combat. They will be no more conclusive than are the independent attacks of any of the other arms. As for bombing raids against cities, London still stands, and the inevitability of reprisals will tend to reduce still more this messy business. The airplane is here to stay. It is a great arm, but it has no more replaced all others than did gunpowder.

That fecund mother, Necessity, who



at Troy produced the wooden horse, begot of the machine gun that horse's modern prototype the tank—an identical twin to all her preceding military offspring; the counter to the latest form of defense.

At first the tank, despite the innumerable ills of childhood, enhanced in this case by premature birth, was a success. It was a surprise. As it waxed stronger it still prevailed, to a degree, due to its inherent worth. It has been likened to an armored knight. The first emblem of our tank corps was such a warrior. The similarity is too apt. So long as the knight combined movement with invulnerability he prospered. When he sacrificed mobility to protection, he passed on.

In the World War, infantry with their machine guns were impotent against tanks. Only direct hits by artillery, bad going, and above all engine trouble stopped the tanks. Now every arm has its quota of antitank weapons which are quite effective. The terror of surprise is gone. In a major war tanks will fight tanks. A land Trafalgar will be brief, bloody, and pyrrhic in its result.

By land and sea it is the same old story of guns and armor. We shall always have battleships, and we shall always have tanks and land destroyers, too, in the form of armored cars. Also we shall still have losses. Eutopia is not yet. The tank is vastly potent and rigorously limited; it is not and never has been a life insurance policy for tank gunners and drivers. It has no more the power to replace the other arms than had the long bow.

General Forrest said: "War means fighting and fighting means killing." When that grim time comes again, remember that all arms are potent, none is paramount.

We are well aware that our efforts to prove the fallibility of weapons as a key to victory are wasted on students of history. Unfortunately the lure of the bizarre tends to make mankind as a whole disregard its teachings. Nor is this a phenomenon confined only to things military. When sages point to the sublime inevitability of the cycles

of history in morals, politics, dress, and so on, they are told: "True for you, but things have changed. We have the radio now and women vote." Similarly in matters military when we point to the endless cycle of holds and blocks we are told "That was all true in the days of Napoleon, but now we have gas, tanks, airplanes or what will you.

So far as we know few if any victories are traceable to weapons.

Caesar destroyed the poorly armed Gauls and he did the same to the well armed legions of Pompeii.

In 1866 Prussia defeated the less well armed Austrians—in 1870 she destroyed the better armed French.

Advertisements to the contrary notwithstanding, Big Business does not owe its bigness to a filing system (a business weapon).

Already in this article we have made use of part of Napoleon's magnificent definition of genius. Here it is in full. He says: "Genius is the ability to utilize all the means at hand for the accomplishment of the end sought."

The thought applies equally to weapons; we must use them all.

To us it seems that those persons who would scrap the old and rely only on the new are on a mental parity with the poor man who, seeing an overcoat, pawns his shirt and trousers to buy it, only to find that it is burdensome in summer and not wholly satisfying even in January.

Wars are fought with men, not weapons. It is the spirit of the men who fight, and of the men who leads which gains the victory. In Biblical times this spirit was ascribed, probably rightly, to the Lord. It was the Spirit of the Lord—courage—which came mightily upon Samson at Lehi that gained the victory. Not the jawbone of an ass.

An Ancestor of the Tank

From the Note Book of "General Experience"

IN the Hussite War, use was made of the *hradba vozova* invented by Ziska. This consisted of a sort of armored wagon. In the attack it advanced carrying sharpshooters. For defense, several of these wagons were lashed together with iron chains.

Our Efficiency Report

MAJ. ABBOTT BOONE, 12th Field Artillery

A RECENT effort to prepare hypothetical efficiency reports on the Great Captains of history, using our present efficiency report form, showed that it is utterly impossible to draw on this form an adequate picture of the military qualifications of these great soldiers. There is no specific place in which to enter that remarkable "will to win" against great odds which characterized Gustavos Adolphus; the marvelous "knowledge of his profession" of the great Napoleon; the sublime "moral attributes" of the Confederacy's great chieftain, Robert E. Lee; the abstract and concrete "mental qualities" of the generalissimo of the Allied armies, Marshal Foch. The painter of portraits, oil or military, must have the canvas as well as the paint and brush, and so in this article I propose to suggest a new canvas for the painting of the military portraits of our coming Great Captains.

Likewise, I have found the present efficiency report form equally deficient in painting the military characters of some of the "lame ducks" of our army of today who have been caught in the mesh of Section 24b of the National Defense Act. During the past eight months I have been recorder for a court of inquiry considering Class B cases, and in that capacity I have examined hundreds of efficiency reports extending over the past 25 years. I have been amazed at the wide divergence of opinion of different superiors concerning the same officer; at the contraditions on the same report; at the all too many ill-considered opinions and remarks; at the general lack of competent revision by the next superior; and at the decided failure of the present form to present the means whereby a true picture of the officer can be obtained. When I get through reading any particular report I am unable to say whether the officer reported upon is a strong or a weak character; whether he possesses the "will to win;" whether he has the necessary knowledge of his profession; whether his care and treatment of his subordinates is good or bad; whether his personality is attractive or the opposite; whether his mental characteristics are suitable for the strain of war; and whether he possesses the moral courage so requisite in an officer. I am therefore going to point out these specific deficiencies and suggest a new form that will correct them, giving due weight to the fact that the form is used both for Regular, Reserve, and National Guard officers.

D. CLASSIFICATION

The present form lists five classifications: "inferior," "unsatisfactory," "satisfactory," "excellent," and "superior." Some of them are not properly descriptive, nor are the terms properly defined or elucidated. The classification "satisfactory" is what I might call a "dismal swamp" into which are thrown, helter skelter, 60 per cent of our officers; some—better than average— damned with the faint praise "satisfactory"; others—less than aver-

age—boosted into a classification in which they do not belong. It is impossible for 60 per cent of our officers to be on practically the same scale of efficiency; it violates all the laws of averages, as only 50 per cent at the most can be in the "50 per cent zone." Many officers have told me that in making out efficiency reports they have wished that there were something a little better and a little worse than "satisfactory", and I have frequently seen on efficiency reports the wording "better than average" and "barely satisfactory". I have been informed, too, that in the Personnel Section of the Ordnance Department at Washington they have found it necessary to split up the "satisfactory" classification into three parts. In order to avoid too many classifications I have not split the basic classification into three parts but I have substituted for "unsatisfactory" the term "deficient" and substituted "unsatisfactory" for "inferior", eliminating "inferior" as being unnecessary.

Furthermore, the term "Satisfactory" in itself is, to my mind, ill-chosen. It is a more or less a *negative* word, carrying with it somewhat the idea of "just getting by"; in other words, it is equivalent to saying that the officer is dragging along as a typical "time server" pursuing the even tenor of his way, but that nothing constructive can really be expected of him. It is a better word than "average" but it is too flat, too weak. What is needed is a strong, positive appellation which carries with it an idea that, though the officer may be only moderately capable, nevertheless he works to the limit of his capacity and is reasonably well advanced in the military profession, well skilled, versed, adept. With anything less than this the government cannot be satisfied. The word which I think meets these requirements is "proficient." It is a better word than "satisfactory", it is a far better word than "average". This word "proficient" is what should take the place of the present classification "satisfactory" and should be the basic, fundamental classification.

Starting, then, with "proficient", I would use upwards, "excellent" and "superior;" downwards, "deficient" and "unsatisfactory." The classification series would then read as follows:

SUPERIOR: PREEMINENTLY EFFICIENT performance of duty; qualified to a PREEMINENT degree.

EXCELLENT: VERY EFFICIENT: BETTER THAN usually accepted as PROFICIENT.

PROFICIENT: EFFICIENT; duty WELL performed.

DEFICIENT: Performance of duty and qualifications characterized by LIMITED inefficiencies, failures and shortcomings.

UNSATISFACTORY: POOR PERFORMANCE of duty; VERY DEFICIENT in qualification considered.

F 1, 2, 3, 4, 5 and 6.

These entries, with the exception of No. 6, are all definitely reported upon either under "E" or "H". "Handling officers and men" is nothing but leadership and is reported on under "H-10". Similarly "Performance of field duties," "administrative and executive duties", "As an instructor", and "Training troops" are all reported on, when appropriate, under "E", and need not be repeated under "F". Consequently "F-6. Tactical handling of troops" is the only one of the six which is not reported upon elsewhere. Before I go any further I would like to

set forth the real essentials of an efficiency report—they are:

(a) Manner of performance of particular duty.
(b) Qualifications in own branch, corps or service.
(c) Qualifications in other branch, corps or service.
(d) Outstanding specialties of value in military service.
(e) Personal attributes.

In place of the present entries under "F", we can enter therein those referred to in (b) above, similarly "G" can take care of (c) and (d), and "I" and succeeding paragraphs (e). "F", then, would read as follows:

F—MILITARY QUALIFICATIONS IN PARTICULAR BRANCH, CORPS OR SERVICE.

1. Knowledge of technique of branch, etc. ....
2. Knowledge of tactics of branch, etc. .....
3. Instructor in technique of branch, etc. ....
4. Instructor in tactics of branch, etc. .....
5. Tactical handling of troops of branch, etc.

G.—OUTSTANDING SPECIALTIES OF VALUE, etc.

Primarily an officer's most important qualification is that in his own particular branch, corps, or service, but there are many officers who have served long periods or details in other branches than their own and their experience in and knowledge of another branch should have a marked influence upon their general rating and value to the service; consequently under the heading of "G" I would put qualifications in other branches of the service, and under "H", outstanding specialties of value in the military service. I would, therefore, make "G" and "H" read as follows:

G. SPECIAL QUALIFICATIONS IN OTHER THAN OFFICER'S OWN BRANCH, CORPS OR SERVICE."

H. OUTSTANDING SPECIALTIES OF VALUE IN THE MILITARY SERVICE."

"H-1. PHYSICAL ACTIVITY (agility; ability to work rapidly)"

The definition in parenthesis is very ambiguous. The word "agility" may mean either physical or mental agility or both, and the phrase "ability to work rapidly" may mean the ability to swing a shovel rapidly or to think quickly. What is really wanted is a rating on *physical activity;* that is, whether an officer is physically lazy and slothful or physically active and vigorous. I suggest, therefore, that the item read:

I-1. PHYSICAL ACTIVITY (in military activities, physical exercise and sports.)

"H-2. PHYSICAL ENDURANCE (capacity for prolonged exertion)"

This item in its present form is one of the hardest to fill out. There is no good yard stick by which to measure an officer's physical endurance. I have seen some of the most vigorous-looking officers fall out long before thin, unimpressive officers did. I believe, however, that we can, from our knowledge of an officer's physical activity and his general physical appearance, size up his physical condition; that is, whether he is keeping himself in proper shape for the harships of active military service. I therefore would change "H-2" to:

I-2. Physical condition (general fitness for arduous field service.)

"H-5. TACT (the faculty of being considerate and sensible in dealing with orders)."

A tactful officer is one who is considerate and sensible in dealing with orders and who observes the rules and principles of military courtesy. This latter should therefore be added to the clause in parenthesis, so that the item would read:

I-5. TACT (the faculty of being considerate and sensible in dealing with others; observance of military courtesy)."

"H-6. INITIATIVE (the trait of beginning needed work or taking appropriate action on his own responsibility in absence of orders)."

I think it is a mistake to include "on his own responsibility" in the elucidation of "initiative". Initiative is merely the "energy or aptitude displayed in the initiation of action", and in the great majority of cases has no connection whatever with the import of the word responsibility, either from the standpoint of a sense of responsibility or a willingness to assume the responsibility for the outcome, good or bad, of the acts initiated.

I believe it important, therefore, to separate the import of the word "responsibility" from the item of "initiative", and make "responsibility" a separate item. A willingness to assume responsibility requires energy, resolution, and moral courage, three very important attributes in an officer, and it is of such great importance that it should certainly be an item in itself. Furthermore, initiative carries with it an element of the pioneer, a seeker after something new, a developer of new fields, and this element should be included in the definition. I would therefore make "H-6" read:

I-6. INITIATIVE (the trait of developing new fields, of beginning needed work or of taking appropriate action without waiting for orders).

I-7. WILLINGNESS TO ASSUME RESPONSIBILITY (resolution and moral courage to step into the breach when necessary and do the needed thing regardless of consequences or criticisms).

"H-7. INTELLIGENCE (the ability to understand readily new ideas or instructions)."

I presume this item was intended to cover the entire field of the abstract and concrete mental qualities of the individual, as distinct from the physical; but in reality it only covers one very small section of the mental field; that is, the "understanding"—the ability to understand new ideas or instructions. It says nothing about intelligence in the abstract or the intellect or the reason, nor the energy, activity, power, force, etc., of the mind, nor that power of decision so essential in a leader. It leaves entirely out of consideration the ability to think and to analyze; the capacity for prolonged mental exertion and for the exercise of clear, cold logic. I think, therefore, that it would be better to change H-7 and substitute for it the two following items:

I-8. MENTAL QUALITIES—abstract (intellect; intelligence; understanding; reason).

I-9. MENTAL QUALITIES—concrete (energy, activity, power, force, vigor and strength of mind; power of decision).

"H-8. FORCE (the faculty of carrying out with energy and resolution that which on examination is believed reasonable, right, or duty)."

The explanation of "force" in parenthesis is faulty. First, it implies that the force is used by the officer himself in compelling himself to do the carrying out personally, whereas the force should be applied on others; and second, that it requires the application of judgment to decide whether the thing to be done is "reasonable, right or duty". Such discrimination should be

left to "judgment and common sense" and not mixed up with a word of kinetic energy like "force". The true meaning of "force" is therefore: "The constraining or compelling, *not of one's self, but of others, by* physical, moral or intellectual means, to do that which is needed or ordered to be done." I believe it would be better, therefore, to define "force" as follows:

I-10. FORCE (the ability to secure by energy, resolution and will power the doing, by the proper personnel, of the things needed or ordered to be done).

"*H-9. JUDGMENT & COMMON SENSE (the ability to think clearly and arrive at logical conclusions).*"

I do not know from what source the elucidation contained in the above parenthesis was obtained. It certainly does not describe either "judgment" or "common sense". If we go to the dictionary we find the best definition of "judgment" to be: "The faculty or judging or deciding rightly, justly or wisely", and of "common sense": "Good, sound, ordinary sense. 'Horse' sense. Normal intelligence." I would, therefore, change the explanatory remark in parenthesis to read as follows:

I-11. JUDGMENT AND COMMON SENSE (the faculties of deciding rightly, justly or wisely, and of carrying out such decision with 'horse' sense).

"*H-10. LEADERSHIP (capacity to direct, control, and influence others in definite lines of action or movement).*"

The explanatory phrase, to my mind, is incomplete. No definition of leadership is complete which does not stress "capacity to command". That is the fundamental concept of leadership in the military service, so why leave it out in defining leadership? Next in importance I would place the "capacity to develop morale"—a vital essential also. And third is the ability to inspire or influence others to definite lines of action or movement by knowledge, tact, personality, and prestige. I would, therefore, make the item read as follows:

I-12. LEADERSHIP (capacity to command, to develop morale, to inspire or influence others by knowledge, tact, personality and prestige).

PROPOSED ADDITIONS TO PAR. H

On March 10, 1930 General Summerall delivered an address on morale and leadership at the Army War College. In this address he stressed four important qualifications which nowhere specifically show on the present efficiency report form. These are:

(a) Knowledge of his profession;
(b) The "will to win";
(c) Obedience to orders, as distinct from cooperation;
(d) Care and treatment of subordinates.

These four things are constantly emphasized in every book on military history and biography, and are stressed in every talk I have ever heard on leadership and the military character, and yet they do not appear on our efficiency reports.

KNOWLEDGE OF HIS PROFESSION

It is becoming increasingly important that the officer of today be no narrow-minded professional soldier. He must be thoroughly educated, not only in the profession of arms itself, but in all the many phases of civilization, politics, and government that may confront him in any contingency of future world conditions. We must have something, then, in our efficiency report which will indicate whether an officer is purely of the narrow-minded professional soldier type or of the

broad-gauged military leader, administrator, governor, or diplomat of the future. I do not comprehend how this item could have been left out of the present efficiency report form. It used to be in and it is the very foundation itself of an officer's military qualifications. It should by all means, therefore, be reintroduced. I have proposed above that under "F" there should be included "knowledge of his branch, corps, or service," and under "G," knowledge of any other branch, corps, or service," but I do not believe that these two yet cover the full subject of "knowledge of his profession." Therefore, for the reasons above stated, there should be included under "I" an item reading as follows:

I-13. GENERAL KNOWLEDGE OF HIS PROFESSION (technical; tactical; political; industrial; economical; geographical; historical, etc.).

THE WILL TO WIN

The will to win qualification is a *sine qua non* of all Great Captains and is especially emphasized by General Summerall. It is a qualification which must exist in every leader—not only among the great captains, but also among all leaders, down to include the corporal, and it must be a vital part of the moral character of the individual soldier himself. It may be difficult to say whether a certain officer is imbued with a satisfactory degree of the "will to win" but I believe that it will be possible to determine those officers who possess it or lack it to an eminent degree. While I think that the phrase in itself, "the will to win," is self-explanatory, nevertheless it may be best to elucidate as follows:

I-14. THE WILL TO WIN (persistence against opposition; tenacity of purose; determination to conquer against all odds whatever; indomitable resolution in carrying out decisions).

OBEDIENCE TO ORDERS

Again, according to General Summerall, obedience to orders is one of the most important requisites of an officer. Therefore there should be an item headed "obedience to orders." One might say that all officers reported upon are assumed to have obeyed orders unless some disciplinary action was entered on their efficiency report. That might be true, but the abstract fact of having obeyed an order is not in itself of as great importance as the manner, time and thoroughness of such obedience. I believe, therefore, that there should be entered under "I" an item:

I-15. OBEDIENCE TO ORDERS (willing, cheerful, prompt and thorough compliance with orders of superior authority).

CARE AND TREATMENT OF SUBORDINATES

It is true that the item "leadership" involves a great deal of the element of care and treatment of subordinates, because no man can be a good leader who does not take proper care of and treat decently his subordinates. However, I have known some very high ranking officers in our service who reached high positions and were apparently rated high in leadership by the War Department, but who, from my observation, had no conception of the proper method of caring for or treating their subordinates. They were intensely selfish, always thought of their own comfort first, and treated subordinates with unnecessary harshness and injustice. The term "hard-boiled" described them perfectly. I think it important, therefore, that the above suggested item be entered separately in order that the attention of all concerned may be constantly placed on one of the very most important

attributes of a leader, without which a high morale cannot exist. The item I think should read about as follows:

I-16. CARE AND TREATMENT OF SUBORDINATES (unselfish and self-sacrificing devotion to subordinate officers and men; decent, humane, generous and just treatment of them).

J. WEAKNESSES, ETC.

The up-to-date students of psychology and psychiatry have definitely shown that there are many causes besides weaknesses which adversely affect an individual's efficiency. Extensive studies have been made of the bad effect of certain eccentricities and complexes which decidedly lower the efficiency of a particular individual. An officer of the "explosive" type illustrates the one, while one with an "inferiority complex" the other. To bring our efficiency report form up to date from this standpoint, therefore, we should add the words: "Eccentricities or complexes," so that it will read as follows:

M. HAS HE ANY WEAKNESSES, ECCENTRICITIES, OR COMPLEXES, TEMPERAMENTAL, MORAL, PHYSICAL, etc., which adversely affect his efficiency? If so, etc.***

STRONG MORAL QUALITIES

In spite of Napoleon's dictum on the relationship of the moral to the physical in war, we have nothing on our efficiency report to show the moral qualities. Under "J" we are given an opportunity to report on the lack of proper moral qualities, but there is no place to report upon the *possession* of high moral qualities. I propose the addition, therefore, of a new item immediately preceding the former "J" which will read as follows:

L. HAS HE ANY OF THE FOLLOWING MORAL QUALITIES DEVELOPED TO AN OUTSTANDING DEGREE? If so, underscore such: HONOR; PATRIOTISM; SPIRIT OF SACRIFICE; FORTITUDE; JUSTICE; STEADINESS; MORAL COURAGE; PHYSICAL COURAGE; DISCIPLINE; SELF-CONFIDENCE."

CHARACTER

Now that we have given, more or less in detail, the distinct mental and moral traits of the officer concerned, it remains to sum them up in the graphic word "character"—to set forth in one qualifying word what after all the individual really is—and without which no report on an officer can be complete. We always wants to know whether he is a strong or a weak character, whether he will stand like a rock or shift like the sands. I propose the following entry:

CHARACTER—How does it impress you in general? (underscore appropriate word) SUPERIOR, VERY STRONG, STRONG, INDIFFERENT, WEAK, VERY WEAK.

R. BRIEF GENERAL ESTIMATE

Some years ago the duty devolved upon me of viséing the efficiency reports of some 60 Regular Army instructors of the National Guard, and of several hundred National Guard officers. In going over these reports I found a great paucity of ideas in the writing of the brief estimate. In many cases there would be the sole entry "An average officer." To overcome this I decided to issue a memorandum giving a long series of expressions which had been used to define the military characteristics of some of the great generals of the world. To do this I searched through the biographies or autobiographies of Alexander, Hannibal, Scipio, Napoleon, Grant, Ludendorf, and others for the terms descriptive of their military characteristics, and then issued this list of expressions in mimeograph form. In this way I was

able to obtain brief estimates which were of some value. Based on that experience I am of the opinion that there are at least four things that should always be commented upon in the brief estimate:

(a) Whether or not the officer is hard working and a student of his profession;

(b) Whether or not he is ambitious;

(c) Whether or not he possesses an agreeable, attractive personality that inspires confidence and sympathy, or the contrary;

(d) Whether or not he possesses what we might call a "talent for human relationships," that is, the faculty of getting along decently and sensibly without friction, with decent and sensible people.

I think, therefore, it is better to change the item to read as follows:

W. WRITE A GENERAL ESTIMATE OF THIS OFFICER IN YOUR OWN WORDS, COVERING THE FOLLOWING POINTS AND ANY OTHER POINTS DESIRED: Hard worker and a student of his profession; ambition; personality; easy or difficult to get along with.

U. REMARKS

In a great majority of efficiency reports which I have seen, a most important entry is omitted—that required by Par. 10*a*, A. R. 600-185, which concerns suitability for civilian contact and for duty with the civilian components. This is an extremely important qualification and becomes more important every year and should never be omitted from the report, and I think it should, to prevent omission through oversight, be given a separate line in itself reading as follows:

V. SUITABILITY FOR CIVILIAN CONTACT AND FOR DUTY WITH CIVILIAN COMPONENTS.

W. CERTIFICATE OF REPORTING OFFICER

In connection with the certificate of the reporting officer, I believe it of extreme importance that there be added thereto the following *"and that I have looked up in the Army Register the officer's education, both civil and military, and the summary of his service."* This will insure that the reporting officer will have in mind not only the service of the officer reported upon while under reporting officer's jurisdiction, but his education and prior service and experience, without which it is impossible to arrive at a just estimate. Anything short of that results in a shallow estimate.

A. OFFICER REPORTED UPON (Name typed) (Serial No.) (Grade) (Organization)
A's official status with respect to you .....

B. PERIOD COVERED BY THIS REPORT....months, from.....to.....

C. STATIONS HE SERVED AT.....

D. CONSIDER CAREFULLY THESE DEFINITIONS, KEEP THEM IN MIND WHEN RATING, AND COMPARE THE OFFICER WITH OTHERS IN SAME GRADE.
SUPERIOR: PREEMINENTLY EFFICIENT performance of duty; qualified to a PREEMINENT degree.
EXCELLENT: VERY EFFICIENT: BETTER THAN usually accepted as PROFICIENT.
PROFICIENT: EFFICIENT; duty WELL performed.
DEFICIENT: Performance of duty and qualifications characterized by *LIMITED* inefficiencies, failures and shortcomings.
UNSATISFACTORY: POOR PERFORMANCE of duty; VERY DEFICIENT in qualification considered.

E. DUTIES HE PERFORMED: (State separately and summarize. Where possible show duration of each in months. Example: Co. Comdr. ordinary garrison training, 8 mos. Summary court, 6 mos. Brig. Adj. prepared training schedules, Supply Officer). In describing the manner of performance of duty, use one of five classifications as given under D, amplified as may be appropriate.

Duty	Months	Manner of Performance

F. MILITARY QUALIFICATIONS IN PARTICULAR BRANCH, CORPS OR SERVICE.

	Superior	Excellent	Proficient	Deficient	Unsatisfactory
1. Knowledge of technique of branch, corps or service					
2. Knowledge of tactics of branch, corps or service					
3. Instructor in technique of branch, corps or service					
4. Instructor in tactics of branch, corps or service					
5. Tactical handling of troops of branch, corps or service					

G. SPECIAL QUALIFICATIONS IN OTHER THAN OFFICER'S OWN BRANCH, CORPS OR SERVICE.

H. OUTSTANDING SPECIALTIES OF VALUE IN THE MILITARY SERVICE.

Name of officer reported on ..... Name of reporting officer .....

K. Would you *object, *be reluctant, be satisfied, especially desire, to have this officer serve under your command, in peace? In war? In his present or a higher grade? (Line out inappropriate words. *State reasons.) .....

L. Has he any of the following moral qualities developed to an outstanding degree? If so, underscore such: HONOR PATRIOTISM SPIRIT OF SACRIFICE FORTITUDE JUSTICE STEADINESS MORAL COURAGE PHYSICAL COURAGE DISCIPLINE SELF-CONFIDENCE

M. Has he any weaknesses, eccentricities or complexes, temperamental, moral, physical, etc., which adversely affect his efficiency? If yes, describe them. (FACT or OPINION. Line out one.) .....

N. CHARACTER How does it impress you in general? (Underscore appropriate word) SUPERIOR VERY STRONG STRONG INDIFFERENT WEAK VERY WEAK

O. Proper authority having decided on the methods and procedure to accomplish a certain end, does he render willing and generous support regardless of his personal views in the matter? .....

P. Since last report has he been mentioned favorably or unfavorably in official communications? If yes, inclose copies. .....

Q. During the period covered by this report was he the subject of any disciplinary measure that should be included on his record? If yes, inclose separate statement of nature and attendant circumstances. .....

R. If he is not now on duty commensurate with his present grade and its responsibilities, state reasons if known. .....

S. Is he qualified in every respect for all the duties of his branch and grade? If not, state reasons .....

T. Has he demonstrated his fitness to perform the duties of the next higher grade? If so, how? .....

U. What is the highest command (or assignment in case of a staff officer) he is qualified to hold in peace? In war? .....

V. Suitability for civilian contact and for duty with civilian components .....

.....

W. Write a general estimate of this officer in your own words, covering the following points and any other points desired: Hard worker and a student of his profession; ambition; personality; easy or difficult to get along with.

.....

.....

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X. How long have you known him? ..... Y. How well do you know him? .....

Y. Remarks .....

.....

.....

.....

.....

.....

.....

Z. In case any unfavorable entries have been made by you on this report, were the deficiencies indicated hereon brought to the attention of the officer concerned while under your command and prior to the rendition of this report? If yes, what improvement, if any, was noted? .....

.....

I certify that all entries made hereon are true and impartial to the best of my knowledge and belief and are based on personal observation or official reports, and that I have looked up in the Army Register the officer's education, both civil and military, and the summary of his service.

(Signed)
(Name typed)
(Grade and Org)
(Comdg what?)
(Plate)
(Date) Incls.

To what degree has he exhibited the following qualifications? Consider him in comparison with others in his grade and indicate your estimate by marking X in appropriate rectangle. (See par. D above.)	Superior	Excellent	Proficient	Deficient	Unsatisfactory
1. PHYSICAL ACTIVITY (in military activities, physical exercise and sports)					
2. PHYSICAL CONDITION (general fitness for arduous field service					
3. MILITARY BEARING AND NEATNESS (dignity of demeanor; neat and smart appearance)					
4. ATTENTION TO DUTY (the trait of working thoroughly and conscientiously)					
5. TACT (the faculty of being considerate and sensible in dealing with others; observance of military courtesy)					
6. INITIATIVE (the trait of developing new fields, of beginning needed work or of taking appropriate action without waiting for orders)					
7. WILLINGNESS TO ASSUME RESPONSIBILITY (resolution and moral courage to step into the breach when necessary and do the needed thing regardless of consequences or criticisms)					
8. MENTAL QUALITIES—abstract (intellect; intelligence; understanding; reason)					
9. MENTAL QUALITIES—concrete (energy, activity, power, force, vigor and strength of mind; power of decision)					
10. FORCE (the ability to secure by energy, resolution, and will power the doing, by the proper personnel, of the things needed or ordered to be done)					
11. JUDGMENT AND COMMON SENSE (the faculties of deciding rightly, justly or wisely, and of carrying out such decision with 'horse' sense)					
12. LEADERSHIP (capacity to command, to develop morale, to inspire or influence others by knowledge, tact, personality and prestige)					
13. GENERAL KNOWLEDGE OF HIS PROFESSION (technical; tactical; political; industrial; economical; geographical; historical, etc.)					
14. THE WILL TO WIN (persistence against opposition; tenacity of purpose; determination to conquer against all odds whatever; indomitable resolution in carrying out decisions)					
15. OBEDIENCE TO ORDERS (willing, cheerful, prompt and thorough compliance with orders of superior authority)					
16. CARE AND TREATMENT OF SUBORDINATES (unselfish and self-sacrificing devotion to subordinate officers and men; decent, humane, generous and just treatment of them)					

CONCLUSION

I believe the above form will satisfactorily solve the present unsatisfactory situation concerning efficiency reports, subject to the following provisos:

(a) That a rating of "Deficient" in any duty or attribute be not considered as an *unfavorable* entry requiring the efficiency report to be sent to the officer concerned, but that it be considered solely as a more or less limited and temporary deficiency which should be corrected by the application of the principles of leadership by the immediate and higher commanders.

(b) That in the 1st Indorsement the next higher commander shall always report as to whether in his opinion the reporting officer has used good judgment throughout the report.

(c) That Par. 8 *a* (1) (*b*), Circular No. 62, War Department, 1929, requiring that unfavorable entries of *opinion* be also referred to the officer reported upon, be revoked. This is considered absolutely essential to the free expression of opinion by reporting officers, without which efficiency reports will not be worth the paper they are written on for those officers who possess unsatisfactory traits.

Ideas for a Tank

CAPT. EUGENE FERRY SMITH, Infantry, Tanks

OFTEN the immediate necessities of the war in which a new weapon is developed prevent a full comprehension of the tactical possibilities of the weapon. Such has been the fate of the tank.

Born of the necessity for providing some means of advancing the infantry attack against the hail of lead that the enemy was able to put down, it was only incidentally, or as the unforeseen result of situations that developed on the battlefield, that the tank was used in one of its most important roles, that of striking at the nerve centers of the enemy, its communications, command posts, and reserves.

The tactical uses of the tank, aside from those in connection with a mechanized force of which it will undoubtedly be the backbone, fall into two classes. First, there should be an *accompanying tank* which normally operates within 500 or 600 yards of the associated troops; second, a *leading tank* which may ultimately be several thousand yards in front of the associated troops and operate more or less independently of their advance though in coordination with them. Leading tanks will have the mission of breaking through the main line of resistance and penetrating to the rear areas, where they create the greatest havoc possible with communications, command, and reserves.

This conception of the future uses of tanks requires us to get away from the old idea that a tank need have a speed but slightly greater than that of foot troops. Also, the development of improved antitank guns, and the technique of their use, spells death to the slow moving tank of the World War. The increase in motor transportation, with its greater demands on the roads, requires, if possible, the development of a tank capable of strategic movements independent of tank carriers and of roads.

We must revise our specifications for a tank if we are to have a weapon that will meet these modern requirements of tactical and strategical mobility. What then would be the tank that would meet these requirements? And can such a tank be built? I believe it can, and at a reasonable cost.

Such a tank in my opinion would be built to approximately the following specifications:

Length, width, and height to each be the minimum possible consistent with other essential features. The length would probably be about 18 feet; the width, in order to permit free travel on normal roads and loading on railroad cars must not exceed eight feet; and the height must be such as to allow the gunner to stand in a slightly crouching position when firing.

The weight must be the minimum possible consistent with other essential features. It will probably be approximately 12 tons. The ground pressure must be such that the tank will be able to negotiate soft or swampy ground that is passable by ground troops.

The suspension, which is one of the most important features of the tank, must be such as to provide a gun platform as free as possible from vibration, shocks, and rocking motion, the

latter being much less detrimental to marksmanship than either or both of the other two. Independently sprung wheels, suspended on rocker arms the vertical movement of which is controlled by coiled springs, such as are used on the Christie tank chassis, have provided a highly satisfactory suspension the use of which has resulted in a gun platform far superior to that of any known tank.

The interior arrangement must be such that the driver is in the forward part of the tank, with an unobstructed view to the front and flanks of the tank, and so located that he can see the ground to within ten feet of the front of the tank. The gunner must be as near as practicable to the point which affords the maximum stability for firing, which experience has shown to be near the center of the tank.

The engine compartment must be so located that the operation of the motor will not reduce the efficiency of the crew in driving and firing. Experience has shown that the location which will best insure this result is in the rear part of the tank.

If the engine compartment is in the forward part of the tank hot air and fumes from the cooling system are being continually forced up in front of the tank and interfere with the vision of the crew. Also, the tank advances into this contaminated air; the heat, fumes, and dust are drawn into the tank through the ventilating system, and the efficiency of the crew is materially reduced because of having to breathe foul hot air and because of the high temperature of the crew compartment. Having the engine compartment in the front of the tank, unless separated from the crew compartment by a suitable bulkhead, will increase the fire hazard for the crew as well as reduce their efficiency. The location of the engine compartment in the center of the tank conflicts with the essential requirement as to the location of the gunner near the center of the tank. Its location in the rear part of the tank obviates all the defects inherent in the other locations and meets the essential requirements.

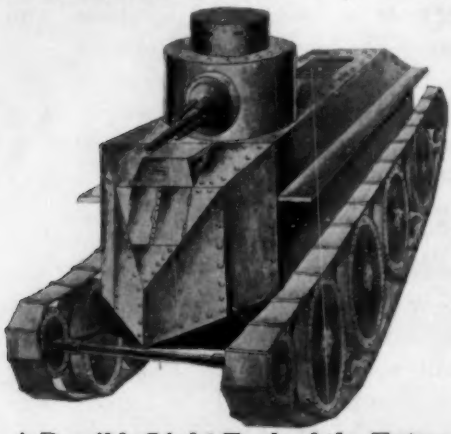
Eye slits must be provided for driver and gunner, so located as to give all round vision and protected by pullet-proof glass to prevent injury from bullet splash.

Two independent openings must be provided for ingress and egress of the crew, so located that in the event of the ditching of the tank both openings will not normally be blocked. The gasoline tanks must be so located as to reduce the fire hazard and must not be in the crew compartment. They must be absolutely protected against .30 caliber armor-piercing bullets, and preferably against .50 caliber armor-piercing bullets, at all ranges. If a suitable material can be found that would automatically seal any punctures in the tank, it would be highly desirable to have the tanks encased in such material.

The capacity of the gasoline tanks and oil reservoir for the motor must be such as to insure the tank being able to travel at least 100 miles on end, automotive design and practice favorable roads without the necessity of refueling.

A crew of two men is sufficient for this tank. A three-man crew is advocated by some people, but I believe the space that would have to be reserved for the additional man could better be devoted to carrying additional ammunition.

Modern engineering will assure a motor that works properly under all conditions; that the controls are easy, simple, and effective; that steering is easily accomplished while the tank is moving either forward or backward; that the vehicle as a whole is mechanically dependable; and that the design



A Possible Light Tank of the Future, on Tracks and Ready for Combat

is such as to facilitate servicing, maintenance, and field repair.

The necessary equipment in the way of a speedometer to indicate correct mileage and speeds while running on tracks, oil gauges to indicate oil pressure in the lubricating system of the engine and the quantity of oil in the reservoir, an ammeter to indicate the functioning of the generator, a reliable compass, and lights both exterior and interior, will be provided.

To avoid the necessity of using tank carriers for strategical moves the tank must be capable of moving long distances under its own power. The only practical solution for this at present appears to be a combined wheel and track vehicle. Such a vehicle must be so designated that the conversion from wheels to track laying or from track laying to wheels can be accomplished by the crew of the tank easily and quickly. In a vehicle such as is envisioned here if this change can be accomplished within 15 minutes the time of changing will be considered satisfactory.

So much for the mechanical features of the tank, let us now see what is required in the way of speed and cross-country mobility.

As was indicated before, the tank must depend largely upon its speed to arrive promptly at its objective, to furnish striking power as a weapon, and to protect itself against antitank gun fire. Speed is also essential for satisfactory strategical movements. It is believed these can best be accomplished if the tank is capable of sustained speeds of at least 40 miles per hour on hard level roads, 30 miles per hour across level open terrain, and 20 miles per hour up slopes of ten per cent. At the same time the speed in lowest gear must be such that the tank can negotiate difficult obstacles slowly and without undue shocks, while thoroughly under control. The tank should also be able to climb grades of 35 degrees on favorable terrain.

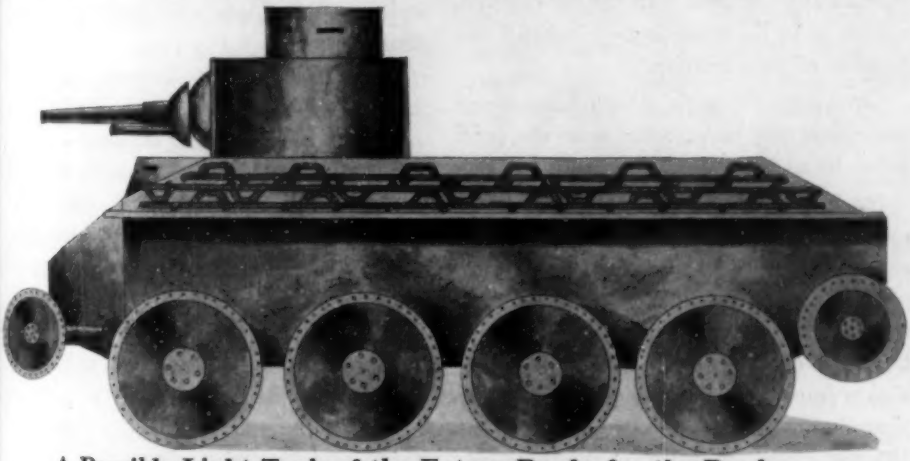
If a tank is to have any tactical mobility whatever it is absolutely essential that it have what, for want of a better term, may be called "in and out ability," that is, the ability to span or climb out of depressions such as trenches, ditches, stream beds, shell holes, etc., and to cross other obstacles such as streams three feet deep with reasonably solid bottoms, wire entanglements, fallen logs, walls, two to three feet high, and other similar barricades. This involves the factors of length and location of the center of gravity, which, for satisfactory climb-

ing out ability, must be slightly forward of the center of ground contact of the tanks.

The question next arises as to the horse power of the motor that will be necessary to give us the required speeds and cross-country ability. Experience of the using service during the past ten years indicates that this is dependent on the weight of the vehicle, and that 25 horse power per ton is necessary to insure the reserve of power needed for these essential requirements.

Having provided for the mobility of the tank, let us turn to the question of armor. Some schools of thought advocate that only sufficient metal be used to insure the mechanical reliability of the tank, with no consideration to the protection of the working parts or of the crew. Others demand protection against .50 caliber or even .80 caliber and 37-mm shell. However, unless some arbitrary limit is set on the thickness of the armor it is readily seen that there would soon develop a race between armament and armor, and the tank would quickly attain a weight beyond all practical possibilities.

We shall therefore set the thickness of armor as that which will stop a .30 caliber armor-piercing bullet fired at any range. This enables the tank to negotiate the battle field with the assurance that the engine, gasoline tanks, and crew are protected from the fire of riflemen and machine guns. The tank will have to depend on its weapons and maneuverability for protection against higher calibered weapons. Protection must extend to all parts that will be exposed to possible machine gun or rifle fire. This includes practically the entire tank. The top is subject to fire from airplanes; the front, sides,



A Possible Light Tank of the Future Ready for the Road

and turret to fire from ground troops while the tank is advancing in any position; the bottom to fire from ground troops when the tank is crossing obstacles; and the rear to fire by ground troops after the tank passed beyond the enemy's outpost line.

Protection of the crew and the vital parts of the tank against bullet splash is essential. This can best be accomplished by proper design of the tank as to closures of essential openings and joints such as doorways, and by the use of bullet proof glass, easily and quickly replaceable, at all eye slits. Positive

closures, easily operated from inside the tank, should also be provided for these as well as the pistol ports.

Experiments have indicated that concentrations of gas far in excess of those found on the battle field will not affect the running of the tank engine. Therefore it is not necessary to provide any protection for the engine against them.

The crew compartment should be made as nearly gas-tight as possible when all openings are closed. The crews must depend on their gas masks until such time as a satisfactory forced ventilating system can be developed, which it is believed is not beyond the bounds of possibilities.

Openings through which incendiary materials can be injected into the tank must be avoided in its design.

Such a tank as that above described can well be armed with a semi-automatic gun of from 37-mm. to 47-mm. caliber and a .30 caliber tank machine gun, mounted in a common mount and having a common telescopic sight. Open sights must also be provided. Such armament, with a supply of at least 125 rounds of ammunition for the semi-automatic gun and at least 3,000 rounds of caliber .30 ammunition, will make this tank a formidable weapon under any circumstances and one that can fight all day without necessity of replenishment of its ammunition supply. In mounting the guns an all-around field of fire is believed advantageous, at least until experiments can be conducted with fast vehicles with guns so mounted that for a field of fire of more than 120 degrees dependence must be placed on turning of the tank rather than rotating the turret.

A spare machine gun should be included in the armament as a replacement for the one in the mount or for use in antitank defense when the tank is halted. A suitable bracket or brackets on the exterior of the tank should be provided for so mounting this gun.

One of the most necessary but least developed features of tank equipment at present is that for exterior communication. As in present tanks, provision must be made for the display of signal flags. Two-way radio communication is desirable in all tanks and should be provided if possible. This installation is dependent on the development of suitable equipment for this purpose.

The communication between members of the crew can be easily carried on by voice or touch signals.

In the design and construction of such a tank the fact must not be lost sight of that the primary essential of the vehicle is to provide a satisfactory gun platform capable of tactical and strategical movements sufficient to meet present day demands, and sufficiently well protected to enable it to advance against the rifle and .30 caliber machine gun without damage. To this must be made to serve the needs of tactical requirements.

A tank that will meet the above specifications can, I believe, be designed and built at a reasonable cost. It would meet the needs of both Infantry and cavalry, and the chassis would readily be adapted to serve several other branches. The development of a tank chassis that can be adopted as standard for various purposes is an important matter, because we cannot expect much progress until the using services agree on the basic specifications of the machine that they need.

Liman von Sanders and Sir Ian Hamilton

A Study of the Gallipoli Campaign

H. A. DeWeerd

"Liman was the sword of the Empire. His presence and his indomitable energy saved the Dardanelles. He was the body and soul of that famous campaign."

General Rafael de Nogales.

"Sir Ian Hamilton in his six months command made no grave mistake; on the contrary, he faced a task of superlative hardness with courage, patience, and a remarkable elasticity of mind."

Colonel John Buchan.

Part I[1]

THE World War was essentially a conflict of coalitions. The numbers of the belligerents involved and their resources were so great, the line of battle was so extended, that one looks in vain for illustrations of the traditional struggle of one strong personality against another. The fighting from 1914 to 1918 produced no such rivals as Wallenstein and Gustavus Adolphus, Wolfe and Montcalm, Grant and Lee, Endeavors have been made to fabricate a Foch and Ludendorff legend, but the effort seems forced.

A distinct contrast was the fighting on Gallipoli peninsula in 1915. Here were two generals with strictly limited resources, pitted against each other in a strictly limited area. These two generals led forces of entirely different composition, were motivated by centiments of a disimilar character, and were themselves products of radically different environments and traditions. Although Sir Ian Standish Monteith Hamilton, the commander-in-chief of the Mediterranean Expeditionary Force, had repeatedly been a guest at German manuevers, he had not met Marshal Liman von Sanders, the commander of the Fifth Turkish Army, before their forces clashed in sanguinary battles on the beaches of Gallipoli in April, 1915.

Both men were strangers to the terrain. Liman von Sanders had but lately arrived in Turkey, and his travels as a member of the German general staff had not included that area. At the time of his appointment as chief of the German military mission to Turkey, Liman von Sanders was acting as commander of the 22nd Division at Cassel. Freiherr von Wagenheim, the German Ambassador to Turkey, had requested that the head of the mission "be a leading German general—of strong character who knows how to gain his point." The choice of Liman von Sanders was unusually fortunate; he was a man of strong physique and indomitable courage. "Rather tall, nervous in the extreme and somewhat ruthless, von Sanders was held in general esteem among the superior officers of the Young Turks." One of the German officers of the mission described him as "stern, military-looking, very self-contained, quick in decision, clear in his orders, scanty of praise, sharp in reprimand and in following up a decision once taken." All accounts agree that Liman von Sanders was a brusque,

[1]Part II will appear in the next number of the Infantry Journal.

energetic man who could not tolerate delay or interference with his plans. From the moment of his arrival in Turkey, he assumed a strong position, insisting rigidly upon his rights. On more than one occasion he was forced to take issue directly with Enver Pasha, the erratic minister of war. The Turkish officials were quite unaccustomed to hear the word "no", but did not dare to trifle with the Marshal. They endeavored, rather, to undermine the mission by intrigues in Constantinople.

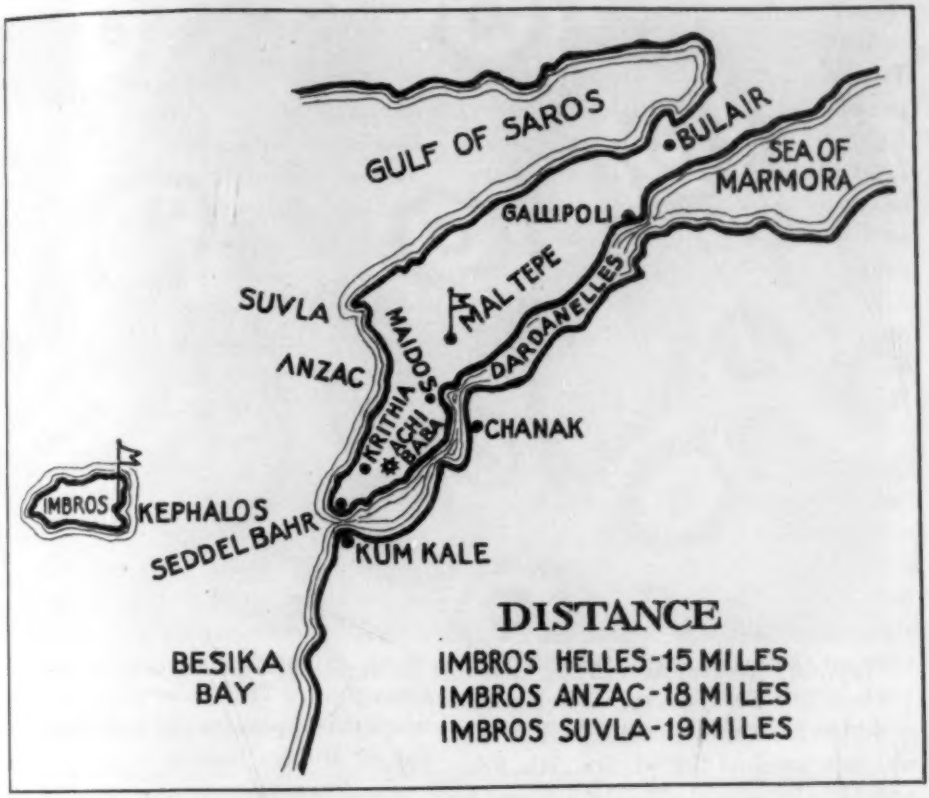
General Liman von Sanders

Photograph reproduced from "Five Years in Turkey," by courtesy of the United States Naval Institute.

The terms of the contract with the Turkish government called for a commission in the Turkish army one rank superior to that which the officer concerned had in the German army. As a consequence of the diplomatic difficulties which resulted from von Sanders' command of the model corps at Constantinople, he was raised to the rank of full general in the German army. This made it necessary for him to hold the rank of field marshal in the Turkish army.

Sir Ian Hamilton, "the most bemedaled man in the British army," was chosen by Lord Kitchener to command the Mediterranean Expeditionary Force. At the time of his appointment on March 12, 1915, he was acting as commander of the Central Forces in England. His long service record included Majuba Hill, Burma Campaign, Chitral, Nile Expeditionary Force, Tirah, and Indian station. He had acted as chief of staff to Lord Kitchener during the Boer War and assisted in bringing the war to a conclusion by defeating de La Rey at Roodewal. During the Russo-Japanese war he had represented the British army at General Kuroki's headquarters, and his *"Staff Officers' Scrap Book"* is one of the best sources in English on that period. When Lord Haldane made his epocal reforms in the British army, he was assisted by Sir Ian Hamilton as adjutant-general. Before the World War Sir Ian was inspector-general of Overseas Forces, and was considered one of the most brilliant and ardent commanders in the army. His personal courage had been demonstrated on more than one battlefield, and his left wrist was shattered by a Boer bullet on Majuba. Twice at Elandslaagte he rallied the Gordon Highlanders, and twice he flung them, leading the way, into the face of the Boers to victory.

Hamilton possesses a skill in writing quite unmatched among his professional associates. This skill, coupled with a spirit at once ardent and generous, would have been sufficient to have assured him of a place in English letters had he not achieved distinction as a soldier. His "Gallipoli Diary" is



a work of more than ordinary value to the historian, since it reflects the mind of the general at the time when his decisions were being made. Hamilton has a slender, wiry build. There is an excellent portrait of him by John Singer Sargent showing his fine patrician face, his proud and martial carriage. In the dress uniform of the Gordon Highlanders he looked like a haughty chieftain who had strayed from some remote page of Scotland's sanguinary and melancholy history.

II

The objective of the Mediterranean Expeditionary Force was to assist the fleet in passing through the narrows of the Dardenelles into the Sea of Marmora. Possession of the dominating ridges on Gallipoli peninsula would allow the Allied batteries, by direct fire from the rear, to destroy the Turkish positions that defended the narrows. The task of the Fifth Turkish Army, which at the threat of hostilities in this area was placed under the command of Liman von Sanders, was to prevent the Allied force from assisting the fleet in this manner.

Both commanders were placed under annoying restrictions with regard to ancillary forces. On the Turkish side von Sanders was not in command of the whole area, for the batteries and defenses of the narrows were under Admiral von Usedom, and Admiral Souchon command the Turkish navy. In a similar fashion Sir Ian Hamilton could only consult and suggest to Vice-Admiral John de Roebeck. Lord Kit-

chener confined operations to the peninsula by ruling Asia out of bounds. The relation of the Mediterranean Expeditionary Force and the command of Egypt was not on a satisfactory basis. Lord Kitchener assured Hamilton that he should look upon the forces of Egypt as his own—allowing of course for the proper defense of that area. Yet Sir John Maxwell was an independent commander and he refused to part with his troops unless ordered to do so from Whitehall.

There were no airplanes attached to the Fifth Turkish army and Sanders had to depend on the fortress airplanes which were under Admiral von Usedom. Hamilton was almost as weak in this matter, having only five serviceable airplanes; the naval seaplanes were on the whole ineffective.

The Fifth Turkish army which withstood the onslaught of the Allied attack was composed of the 3d, 5th, 7th, 9th, and 11th Divisions. The 19th Turkish Division, later attached to the Fifth Army, was being formed.

The Mediterranean Expeditionary Force was made up of the Royal Naval Division under General Paris, a French division from Tunis under General d'Amade, the Australian and New Zealand Army Corps under General Birdwood, and the 29th (Regular) Division under General Hunter-Weston. On first examination Hamilton's 70,000 seem too few to attack 60,000 entrenched Turks. But Hamilton was a man who cut his coat from the cloth given him. When Lord Kitchener asserted that these were the only forces he could spare and that the 29th Division was only a loan, Hamilton prepared to do the best he could with the forces available.

To offset the lack of British troops, it must be said that the Balkan wars had pointed to a definite decline in the efficiency of the Turkish forces, and Hamilton's attack was to be sustained by an overwhelming mass of naval artillery. The naval fire proved ineffective when employed against trenches and terrain, but it exerted nevertheless a profound moral effect upon the defenders in the early stages of the operations. German officers repeatedly refer in their accounts to the effect of the naval fire on the morale of the Turkish infantry. Hamilton was leading a strictly volunteer army, that is, as far as the British forces were concerned. They were men without previous war experience, motivated by a surge of reckless courage, who shared to an extent the ardent optimism of their chief. There was great cheering when the transports and lighters pulled out of Mudros harbor.

The Turkish forces entrenched on Gallipoli were in a position best calculated to exploit the age-long tradition of the Turk as a defensive fighter. The Turk had plenty of good drinking water, his rations, such as they were, sufficed him, there was an abundance of small arms ammunition and hand grenades. The Turkish soldier could fire his rifle to his heart's content, and his courage and intrepedity generally increased in direct proportion to his rate of fire.

The matter of communication caused both commanders grave anxiety. There were few if any roads on Gallipoli, and all supplies for the Turks had to be shipped by water from Constantinople. The presence of Allied submarines in the Sea of Marmora rendered this source of supply uncertain. For the

Sir Roger Keyes, Vice-Admiral de Robeck, Sir Ian Hamilton, General Braithwaite

Reproduced from "The Gallipoli Diary," by courtesy of Doubleday, Doran & Company.

rest, primitive methods of transportation overland supported the Fifth Turkish Army. Sir Ian Hamilton's force had to be supplied by sea from England and Egypt, and there were heartbreaking delays in the arrival of re-enforcements and supplies.

The most suitable places for a landing in force on Gallipoli peninsula were at Cape Helles, Gaba Tepe, Sedd-el-Bahr, and Bulair. Yet Liman von Sanders had to prepare for attacks or feints on a long front from Besika Bay to Bulair. With six divisions at his disposal he made his arrangements so as to insure mobility to the defense rather than rigidity. When the assumed command, the Fifth Army was strung out along the coast as a sort of patrol. Liman knew that he could not be strong everywhere. He therefore grouped his forces so as to place them within marching distance of vital areas. The 5th and 7th Divisions were stationed at Bulair on the Upper Saros Gulf; the 9th and 19th Divisions were sent to the southern theatre on the peninsula; while the 3d and 11th Divisions were encamped on the Asiatic side of the Straits.

Sir Ian Hamilton was forced to select for his main thrust a point not far from the narrows. His choice of plan depended to a considerable extent upon naval considerations, since it was humanly impossible to land more than a given number of men at a designated beach within the hours of daylight. Hamilton felt that his plan was to disorganize the Turkish command by a series of attacks and feints over a wide area, while he pushed home his main attack from Anzac, Cape Helles, and Sedd-el-Bahr. Krithia and Achi

Baba were his immediate objectives. They loomed tantalizingly near the shore. He confided to his diary:

> Prudence here is entirely out of place. There will be and can be no reconnaissance, no half measures, no tentatives—. No; we've got to take a good run at the Peninsula and jump on both feet together—. I would like to land my whole force in one, like a hammer stroke with fullest violence of its mass effect-close as I can to my objective, the Kilid Bahr plateau. But, apart from lack of small craft, that thing can't be done; the beach space is so cramped that the men and their stores could not be put ashore. I have to separate my forces, and the effect on momentum, which cannot be produced by cohesion, must be reproduced by the simultaneous nature of the movement.

Having supervised the multitudinous provisions for the landing, Sir Ian Hamilton could only wait for suitable weather and the Admiral's word to go. The landing was scheduled for April 23, but was postponed to April 25 on account of the weather.

III

The eve and moment of the landing found the rival commanders in utterly different positions and conditions of mind. Liman von Sanders had visited the manuever of the 11th Division at Besika Bay, and returned late in the afternoon of April 24 to the town of Gallipoli. The laconic statements of his book, if they honestly reflect the state of his mind, show a calm confidence in the situation. As the news of the first encounter poured into his headquarters he wrote:

> At 5:00 A. M. of April 25th, reports were received in rapid succession at army headquarters of extensive landings of troops made or about to be made. From the south, beginning on the Asiatic side, the 11th Division reported the concentration of hostile war vessels and transports—.
>
> A little farther north, at Kum Kale, the advanced troops of the 3d Division were heavily engaged with French troops—.
>
> At the southern point of the peninsula of Gallipoli at Sedd-el-Bahr Tekke Burnu—and in Morto Bay the advanced troops of the 9th Division were contending with heavy British forces—.
>
> At Gaba Tepe—troops were being debarked from British war vessels and transports while a semicircle of hostile battleships was deluging the shore and ground in the rear with fire from heaviest calibers.
>
> Nearest to us, in the upper Saros Gulf numerous war vessels and transports approached the coast. Soon we distinctly heard a continuous roar of artillery fire from that direction.
>
> My first feeling was that our arrangements needed no change. That was a great satisfaction! The hostile landing expedition had selected those points which we ourselves considered the most likely landing places and had specially prepared for defense.

Sir Ian Hamilton had made his temporary headquarters on board the *Queen Elizabeth*; there was no other place in this strange military movement where the commander-in-chief could stay and be in touch with operations.

Having ascertained that landings had successfully been made at "W", "X", and "Y" beaches, Hamilton headed back in the *Queen Elizabeth* toward Sedd-el-Bahr, and the check

which the Turks had administered became apparent. Hamilton wrote:

> Very soon it became clear that we were being held. Through our glasses we could quite clearly watch the sea being whipped up all along the beach and about the *River Clyde* by a pelting storm of rifle bullets.—There was a line of men lying flat down under cover of a little sandbank.—Watching these gallant souls from the safety of a battleship gave me a hateful feeling.

During the long day of April 25 Liman von Sanders watched the threatened transports and war vessels in the upper Saros Gulf; he dared not leave Bulair, for the bottleneck of the peninsula had to be held at all costs. He took prompt steps, however, to reinforce the southern theatre by sending Essad Pasha, the gallant defender of Janina, to assume general command. In the afternoon of April 25 a wire reached von Sanders from Essad Pasha at Maidos telling that the 9th Division had used up all of its reserves and was hard pressed. In response to this request, von Sanders decided to detail two battalions of the 7th Division and three battalions of the 5th Division to Maidos. That was a courageous decision to make while the enemy was still making feints at Bulair. In the morning light of April 26 Sanders concluded that Allied efforts in the Gulf of Saros were plainly demonstrations. He felt justified in sending additional units of the 5th and 7th Divisions to the southern theatre, leaving an order with Col. Kiazim Bey to send all troops to Maidos within twenty-four hours if no landing occurred. When the French withdrew from Kum Kale on April 29, von Sanders was able to bring the 11th Division and part of the third division to the southern front. These arrangements made it possible for von Sanders to face Hamilton's 53 battalions on April 30 with 75 battalions, of which more than 40 had not yet been engaged. He gave command of the front at Anzac to Essad Pasha, and the Sedd-el-Bahr area to Colonel von Sodenstern. In response to the Marshal's demands Adrianople sent some of its garrison and guns, and the 12th Turkish Division was sent overland from Smyrna to Chanak. General mobilization was extended in Turkey to classes previously excused from military duty.

Sir Ian Hamilton's reaction to the events of the first day seem to have been sanguine, in spite of the check at Sedd-el-Bahr and the delay at "Y" beach. He felt that the landing was the hardest part of the program, and that one or two days' fighting would surely bring Krithia and Achi Baba into British hands. These somewhat optimistic impressions were shattered that night when Hamilton was roused from his sleep by Braithwaite, his chief of staff, with a message from Birdwood telling of the demoralization of the A. N. Z. A. C. and suggesting withdrawal. Hamilton wrote a definite order for them to stick it out. Having faced this crisis with resolution, it speaks well for Hamilton's elasticity of mind that he was able to turn in and sleep soundly until early morning.

Assumption of operations in the early morning downed all thoughts of retirement, and the second days fighting fastened the British grip on the southern tip of the peninsula. Hamilton, to his surprise, saw troops from "Y" beach re-embarking on British men of war, and could not understand

this movement, since there was no firing at "Y". He was tempted to interfere, but on the advice of Braithwaite decided not to meddle with troops under the executive orders of Hunter-Weston. He remembered how Lord Kitchener had intervened over the heads of local officers at Paardeberg Drift and made a name for meddling that lasted all his life. Hamilton had no information about the actual situation, and his anxieties were augmented by the inefficiency of the signaling from one unit to another. Many a vital message never arrived at the right place. It now seems apparent, from a reading of the official history of the campaign, that a prompt intervention of the commander-in-chief might have altered the whole course of the battle. Had the troops at "Y" beach, which outnumbered the Turks in the southern section, linked hands with the forces at "S" beach, which outnumbered the Turks in Sedd-el-Bahr, the check at "V" beach might have been removed and the prospects of advancing on Achi Baba brightened.

The perils of the landing passed, the British and French forces pressed forward to attain their objectives, but found themselves confronted with growing Turkish strength. There were examples of Turkish units failing in battle, but these were few. The Turkish scouts and snipers seemed to posses fanatical courage and great resourcefulness. Sir Ian Hamilton was forced to ask repeated efforts from his troops, who were exhausted from all night work on lines of communications. He was torn between his desire to reach Krithia and Achi Baba, and the desire to give his troops a brief respite. There could be no delay; the attacks had to be ordered. Cox's Indian Brigade arrived just too late to be of value, but Lord Kitchener promised to send the 42d Division from Egypt. Hamilton now regretted more than ever the fact that his force did not posses the ordinary ten per cent reserves for casualties. One fresh man on Gallipoli was worth ten men in Egypt and three times ten in England. Although the attacks of the Allied forces failed to reach their objectives, the hardships which the troops had undergone and the scope of their accomplishments comprise one of the most glorious pages of military history.

After the British and French attacks had lost their initial force, it became the part of the Fifth Turkish Army to assume the counter-offensive. May 1 brought a terrifying attack which succeeded in reaching the British lines, but which was finally repulsed with great loss of life on both sides. Hamilton, tied down to the transport *Arcadian,* could only watch the tremendous spectacle of a night battle and hope for the best. There were blood-chilling rumors that the British front had been broken and forced back to the beaches. May 2 brought another attack; so did the night of May 3. Hamilton's diary shows the seriousness of these attacks. He wrote:

> 4th May, 1915. H. M. T. "Arcadian." At 9:00 P. M. last night there was all sorts of firing and fighting going on.—I had one or two absolutely hair-raising messages. Not only were the French troops broken, but the 29th Division were falling back into the sea. Though frightened to death, I refused to part with my reserve and made ready to go and take command of it at break of dawn.—
>
> Both Hunter-Weston and d'Amade came on board in the forenoon,

> Hunter-Weston quite fixed that his men are strained to breaking point and d'Amade emphatic that his men will not carry through another night unless they get relief. To me fell the unenviable duty of reconciling two contrary persuasions.—I decided after anxious searching of heart to help the French by taking over some portion of their line with the Naval Brigade. There was no help for it.

These repeated night attacks aroused in Hamilton a new appreciation of the situation. He knew they were terrifying to the men, but felt that they would soon wear the edge off the Turkish infantry. He was right about this, but it was equally true that the Allied troops were severely tried.

The fighting in the early stages of operations had taken a distinctly heavy toll of the defenders. Not only were the casualties great, but the many wants of the army in the way of materials of war had a depressing effect upon the minds of Turkish officers. Von Sanders wrote:

> The officers no longer had the same nerve as the soldier. I received repeated and urgent suggestions from various parties during the ensuing weeks to move the battle front of the south group back to Achi Baba because the plan south of Krithia afforded no natural positions. After acrimonious discussions I declined all these suggestions as they would have completely broken down my principle of a step by step defense.

Sir Ian Hamilton made one more series of attempts to win Krithia and Achi Baba before the Turkish forces were well entrenched. From May 6 to 9 the Allied forces presisted in the attack. Men rushed forward only to be cut down by machine gun fire. These attacks depleted the scanty stock of which the Mediterranean Expeditionary Force had on hand. Night fell on May 8 with the coveted position still in the hands of the Turks, and the last sight which the commander-in-chief saw in the growing darkness was a small band of forlorn French troops wearily advancing toward a lost redoubt. The failure to reach Krithia and Achi Baba brought the end of the first phase of the Dardanelles campaign.

Combat Training

AN UNKNOWN SOLDIER

MILITARY training divides itself, naturally, into the two phases of individual development and unit preparation. Individual development fits the individual for military duty and increases his value as a general asset to the command. Unit preparation fits the unit and its component elements to perform their part in campaign and in the team-work of battle.

INDIVIDUAL DEVELOPMENT

Military qualifications may be divided into seven elements, all of which are essential to maximum efficiency. The lack of any one of these elements may render an officer or soldier practically useless in campaign. These elements are: physical condition, discipline, technique, useful military habit, field efficiency, initiative and morale.

Training, to be properly balanced, requires coordinated development in all of these elements. The danger of unbalance is ever present.

The World's earliest records refer to military exercises. Centuries of adaptations, additions, and eliminations have given us manuals of instruction so elementary, progressive, and complete that they insure basic training in the arms to which they pertain; and any omission from them is dangerous. The technique of modern warfare demands, however, that basic training be supplemented by special forms of instruction to prepare troops for special use in campaign and in battle.

In the course of a campaign, units are combined and become intermingled they receive replacements from various sources. Units must act in intimate team-work with other units of their own and of different arms. In the case of a coalition, they may be called upon to cooperate with troops of a foreign nation. Under such conditions, uniformity of training is essential; and such uniformity can be assured only by the coordinating action of higher authority. This coordination is usually effected by training directives issued by supreme and intermediate commanders, and prescribing, for each arm, certain forms of trainng based on official manuals.

In the course of our analysis we shall have frequent occasion to use, and to differentiate between, the terms, *form* of training, and *element* of training. In what follows, the term, *form*, will be used to designate general or special training such as Infantry, artillery, and cavalry drill, musketry, equitation, and combat mechanism, as distinguished from the term, *element*, which will denote each of the seven qualifications, Physical Condition, Discipline, Technique, Useful Military Habit, Field Efficiency, Initiative, and Morale.

All *elements* of training may be developed in practically every *form* of training. Thus, for example, in Infantry drill, physical condition is promoted by healthful physical exercise; discipline, by instant response to the word of command; technique, by practice in the handling of weapons and in the mechanism of combat; useful military habit by the repetition of movements and evolutions until they become second nature; field efficiency, by

practice in the handling of equipment, marching, and camping; initiative by requiring the instant solution of situations at drill; and morale, by the development of unit pride, and by the psychic influence of rythm and crowd energy. It follows that simultaneous development can be effected in several elements. It is apparent, also, that whereas *form* of training may be the appropriate subject of regulation by higher authority, with its comprehensive view of the general training problem, the *element* of training lies distinctly within the province of the unit commander who is in intimate touch with troops.

The higher the echelon of command, the more difficult it becomes to handle the balance of elements. Higher commanders should confine themselves largely, therefore, to the form of training and should avoid action which may interfere with or curtail the immediate commander's power to control the elementary balance. This does not relieve higher commanders of responsibility for the balanced development, in the elements of training, of all officers and men under their authority; nor should it be interpreted as questioning the propriety of their intervention for the purpose. But to obtain the best results, such intervention should be limited to personal example, to the setting of standards, inspection, advice, assistance, and test, and to the replacement of incompetent officers.

Commanders of brigades and lower combat units, though required, at times, to determine their own forms of training, are primarily concerned with the balanced development of elements. No matter how mandatory schedules from higher authority may be, there is always a wide latitude for the control of such a balance. By accepting the situation in a proper spirit, and seeking opportunities within their province, unit commanders of energy and ability can always fulfill their mission under the phase of individual development. A mandatory schedule from higher authority does not diminish their responsibility for balanced development of the elements.

UNIT PREPARATION

In combat, or at the instant of emergency, individuals and organizations may be depended upon to do what they are in the habit of doing. But they are liable to fail in tasks with which they are not familiar. The development of battle and campaign habits is a slow and tedious process, and one which can never be completed to the satisfaction of a progressive officer.

Unit preparation is fully as important as individual development. They are complementary, and neither should be neglected in favor of the other. The danger of such neglect can best be avoided by devoting equal time and effort to each, unless manifest deficiencies or impending events demand otherwise. Under such circumstances, both phases must be kept *alive* by devoting some time to the one that is being sacrificed for the benefit of its complement. The element of individual development must be maintained in conjunction with unit preparation.

There is a strong tendency among many officers to proceed on the plan of perfecting individuals in general training before unit training is taken up. Their object is to form, eventually, a combination of completely trained individuals, judiciously selected as to aptitude, into a smoothly working team

in which every man is expert in the part he is to play. This plan is dangerous and unsound.

The state of individual excellence necessary to form such a team is slow of attainment and is, as a rule, never reached. The longer the formation of the unit is deferred, the less its likelihood of being ready when put to the test. It is practically impossible to foresee every phase of the future teamwork, or to detect deficiencies until revealed by break-downs of the team itself. An existing team has a personality of its own and is capable of absorbing a new, untrained member and bringing him to team level much more quickly than he could otherwise be developed. A soldier learns much more from his team-mates than he ever could, in the same time, from his instructor.

The average individual is adaptable, and the difference between round pegs and square pegs is of less significance than that between good pegs and bad ones.

Unit preparation should begin from the very initiation of training. The recruit should be assigned his place in the team as soon as he arrives, and he should receive some practical application of his campaign duties at once. On every day of training, the unit should execute some task formative of essential campaign habit.

In unit preparation as in individual development, the line of demarkation between the province of higher authority and that of lower authority is well defined. In campaign, the army as a whole is a team in which the large units play individual parts. Each large unit is but a team of smaller units, and these, in turn are but combinations of lesser ones. Only the authority in control of an entire unit is capable of determining the missions of those elements that play subordinate parts therein.

On the other hand, from the fundamental military principle that analysis should not carried beyond the degree in which details present themselves in real application, a commander should, as a rule, concern himself primarily with the mission of his own unit and the missions of units of the next lower echelon. He should abstain from too much interference in the missions of subordinate elements of lower echelons. Habits of control, within the hierarchy of command, are as important as the habits of any other batttle function. If, in the course of training, higher authority undertakes to control details which would lie beyond its control in time of war, it sets up a false habit which will be an obstacle to itself and a source of confusion to subordinate commanders. In other words, "Tell them what to do but not how to do it."

In unit preparation, as in individual development, it is, of course, essential that units, both large and small, be capable of working in harmony with other units of the military establishment. This requires uniformity of training which can be assured only by higher authority. It is effected by prescribing standards to be attained within given reasonable periods of time, and by suitable tests to check the progress so prescribed. The great fault lies, however, in the tendency on the part of commanders, to regulate in detail the progress of component elements of subordinate teams. The only man capable of regulating this progress intelligently is he who is imme-

diately responsible for such progress. Only he can be sure that gaps are not developing in the unit's instruction.

CLASSIFICATION OF MISSIONS

From the point of view of essential habit, missions may be classed as *occasional* or *continuing*. Occasional missions are those which, in campaign, are usually specifically prescribed in field orders. A unit is sufficiently prepared for missions of this kind if acquired habit has removed the obstacle of unfamiliarity, and has provided the skill necessary to perform the task. Special evolutions, organization of the ground, and works of field engineering, may be classed under this head. Continuing missions are those demanded by campaign conditions, whether or not they are prescribed specifically in orders. They are so essential that their neglect, even in the absence of orders, is sufficient ground for censure of the unit commander. Sanitation, security, and liaison are characteristic continuing missions.

While occasional missions demand but occasional rehearsal and instructions, continuing missions can be provided for only by making them part of the daily life of the unit. They should be made so much a matter of habit, that the unit commander and his whole command will be uneasy and feel that something is lacking when they are neglected. In training, these missions must take precedence over all others, and the neglect of duties incident thereto must call for punishment so severe as to impress all persons with their gravity. In campaign, they must be enforced with intolerant severity.

ORDER OF TRAINING

As an officer contemplates the amount of training necessary to prepare his command for campaign, he is likely to become discouraged and confused. In his anxiety to perfect his unit in certain important functions, he is in danger of overlooking others of equal or greater importance.

Instruction at Camp Doniphan in 1918

In our training for service on the Western Front, this was particularly true. The methods and tactics incident to trench warfare and the introduction of new weapons stood out in

spectacular relief, and obscured the necessity for training in other essentials. The Army was flooded with pamphlets on relatively unimportant subjects which, under the color of secrecy, bore the admonition: "Not to be taken into front line trenches." The subjects of these pamphlets acquired, thereby, an air of mysterious importance which overshadowed the provisions of Drill and Field Service Regulations and other basic manuals. As a result, many units spent much more time than was necessary on training for *occasional* functions, and went into action lacking many of the fundamentals of soldiering.

Events in war result from a combination of causes, some moral and others purely physical. Some factors, such as hunger and thirst, the rate of march and the physical endurance of men and animals, and the weaknesses of human nature, are the same as they were in the days of ancient Babylon. Some, such as the peril of the battlefield and the complication of supply, have evolved gradually with the scientific development of weapons and means. Others are of rapid evolution, as was overhead observation with the appearance of the airplane. Finally, some factors are of passing effect only, such as those due to specialized weapons or tactics which, themselves, disappear before superior means.

It is evident that the true value of training is to be measured by the degree in which it provides for the requirements of the next campaign. The soundness with which training is guided depends, largely, on the accuracy with which conditions of the next campaign can be foreseen. But such prediction is by no means easy. In recent wars, the armies of the most progressive nations have been unprepared for the latest developments; and during the World War, each major operation was characterized by tactics which were altered before the next drive.

With such a rapid evolution of the conditions and art of war, it becomes correspondingly difficult to plan training so as to be fully prepared in the event of emergency. It is, in fact, impossible to provide for every contingency; and we must always expect to pay dearly for our inability to do so. We can, however, do much to minimize the cost of initial surprise. We can profit by former experience to the extent of providing our leaders with troops capable of adapting themselves, in a minimum of time, to new conditions. This we can accomplish by training planned to meet the fundamental necessities of the soldier in the unchanging and slowly changing conditions of war. With such training as a foundation, preparation to meet new conditions is quickly effected, and may be provided for when the nature of such conditions can be determined with the least chance of error.

Working on this basis, the peacetime training should be planned so as to meet the requirements:

> First, on conditions which have been always existed and will always exist;
>
> Second, of those conditions which the history of war and the trend of the times indicate to be truly epolutionary rather than of passing importance.

Training along these lines should occupy the greater part of the soldier's early development, leaving, for the *phychological instant*, the development of his ability to meet conditions of

sudden appearance. There is no question but that a disciplined soldier, skillful in the use of his basic weapon, inured to field service, and instructed in the preservation of life on the battlefield, can be refined into a finished product at any time. But the man who has been developed as a specialist without the fundamental training of a soldier, may be rendered useless at any time through the obsolescence of his specialty, and is always undependable.

Combat Training for the World War

RESPONSIBILITY OF COMMAND AND STAFF

We have considered briefly the fundamental principles of training. The application of these principles brings us once more to the question of the relative responsibility of echelons of authority, and, particularly, to the role, in combat training, of the general staff.

The immediate commander should recognize, as a result of his own experience and common sense, those conditions which, based on natural laws, are of undying effect. His ability to do so is, in fact, a good measure of his fitness to command. But any system would be unsound which threw upon the lower commander the responsibility for estimating the effect in future wars of conditions of gradual or rapid evolution. The policy would be chaotic which permitted training to progress throughout the Service according to the uncoordinated foresight of unit commanders. Such foresight must be a responsibility of supreme authority. This leads to a function which falls distinctly within the province of the general staff in its capacity as a body advisory to the commander in chief.

To be sound in its conclusions, the staff must be guided by the lessons of history, the trend of science and industry the indications of current events and the dictates of common sense. It should determine the conditions to be anticipated, the forms of training best calculated to meet such conditions, and the relative importance and urgency of the forms of training selected. Here the province of the general staff stops. Up to this point it is necessary and

helpful to responsible commanders. But when the general staff undertakes to prescribe schedules setting forth in detail the number of hours for each form of training and the methods to be used, it embarks on something it is unable to carry out. By invading the province of the unit commander, it kills initiative and can only impede the healthy development of the military forces.

Training is the one peace-time activity which reacts most directly on tactical operations in war. To fulfill its mission, it must develop habits which will best meet the requirements of future campaign. In the system of training, the general staff and all echelons of command, each within its proper sphere, have their part to play. The general staff must coordinate training with future requirements; higher commanders must assure the uniformity which is so essential to the teamwork of modern war. But it is the commander in immediate touch with troops upon whom falls the responsibility for the sound development of their fitness; and it is he, alone, who is capable of assuring the balance which is the essential foundation of all combat preparation.

A CORRECTION

In the right hand column on page 245 of the September, 1930, issue of THE INFANTRY JOURNAL an error was made in listing the divisions which installed, maintained and operated their own signal systems. The paragraph to be corrected should read:

> "They installed and operated the divisional nets of three divisions,—the 79th, 99th and the 62nd Cavalry Division. The 28th (Pennsylvania) and 29th (Md., Va., Pa., and D. C., each had their own signal company."

Regimental Motor Transportation

MAJ. G. B. ROBISON, C. A. C.

IT WOULD be rash to attempt to formulate in print a specific system for the maintenance and operation of regimental motor transportation in general. The conditions are so varied as to locality, regimental organization and missions, number, age and type of vehicles, garage and repair facilities, as to pass beyond the experience of one person. The purpose of this article is to describe a system which, established by Lieut. Col. James B. Taylor, commanding the 69th Coast Artillery (AA), now at Aberdeen Proving Ground, Maryland, has been successful and satisfactory under existing conditions. The more important of these conditions are the recent organization of the regiment on February 1, 1930; the large percentage of Class B Liberty trucks; and garrison operation.

Let us first consider the things which a regimental commander presumably desires of his transportation. From his viewpoint it would at least approach the ideal if:

All vehicles were able to move under their own power at all times;

All vehicles presented an appearance as to paint, cleanliness, and lubrication, at all times, such as would merit praise from an inspector;

Equipment such as tools, lights, horns, and fire extinguishers, were in proper condition at all times;

Each vehicle had at least two reliable and well trained drivers;

Gasoline and oil consumptions per mile showed a high degree of efficiency;

There was no evidence of needless operation, such as trips by trucks of four batteries to the commissary at the same time when each one would have less than a quarter load.

The man-hours of maintenance to obtain the above results were zero.

But since vehicles become dirty when used and parts become worn; since paint fades, metal oxidizes, and dust settles, it is obvious that most of these conditions can not be realized practically. We can then state these conditions in more useful form tentatively as follows:

Vehicles will be operated and maintained in such a way as to reduce to a justifiable minimum (due to wear), the number of out-of-commission vehicle-hours;

Vehicles will present an appearance as to paint, cleanliness, and lubrication which is acceptable to the regimental commander;

Equipment and its condition will be acceptable to the regimental commander;

Each vehicle will have at least two reliable and competent drivers;

Gasoline and oil consumptions must show an acceptable degree of efficiency;

There is no evidence of two trips when one would have served as well;

The system of operation and maintenance must be such as to avoid waste of effort and materials.

There are at least two methods of assigning the responsibility for meeting these conditions. In the first and, it is believed, more usual case, certain vehicles are assigned to each unit of the regiment and the unit commander is responsible for everything pertaining to them except major mechanical

repairs. In the second case, the responsibility is placed solely upon the transportation officer of the regiment.

Let us now consider the relative merits of these two systems in various aspects, still from the viewpoint *of the regimental commander.*

When the responsibility is placed upon the unit commanders' they are not likely to be equally experienced in the care of motor transportation; the transportation sergeants will not possess the same exact degree of competence; the mechanics in the various batteries will vary in number and qualifications. To go no further into the factors involved—and there are others—it becomes obvious that there will be a tendency for the appearance and mechanical condition of the transportation of the various units to vary considerably. When the responsibility is centralized in one officer, one well qualified to discharge the duties involved may be selected, assisted by a proper organization to be discussed below, all vehicles will receive an adequate and impartial treatment. The tendency will then be strongly toward a uniform appearance and condition throughout the regiment.

Again, in either system a regimental repair section will probably be maintained for major mechanical repairs. But while the unit commanders will be reluctant to have their best mechanics detailed to a repair section common to all units so long as responsibility for vehicle maintenance remains with them, no good reason for this remains when their responsibility does not exist. This permits the organization of the most effective and efficient repair section possible, ready to handle all repairs impartially. It is a first step toward cutting down out-of-commission time.

Centralized organization will make possible the most effective use, in the most skilled hands, of all labor saving devices (such as paint sprayers) and will thereby contribute to the best and most uniform appearance and will reduce waste and lost time.

Much trouble leading to lost vehicle time arises from neglect due to carelessness, ignorance, and lack of proper supervision. In sufficient oil or grease, improper carburetor adjustment, lack of water or failure to drain in cold weather are only some of the things that can lead to the necessity for major repairs. These causes for repairs are hardly justifiable, since all or most of them are avoidable. Proper organization, training and supervision will keep vehicles in operating condition and out of the repair shop to a marked degree, and will thereby release the time of the section for repairs necessitated by wear. With centralized control, one inspector can do the work of four, and since the best man will be used, the results for the entire regiment should be actually superior to those which would otherwise be obtained in the best unit. Centralized control will free the unit commanders from all duties pertaining directly to transportation. The time thus saved them may be advantageously used in the execution of their other duties.

One-man control makes it possible for the regimental commander to deal with only one officer on transportation matters. That one will be familiar with the transportation of the entire regiment. He can install and main-

tain a uniform system of records and reports.

The adjustment of all vehicles for their best and most economical performance will be facilitated by such a system since the best men in the regiment may be used for these purposes.

The consideration of other aspects must be delayed until we deal with the viewpoint *of the unit commander.* His mental reaction to the proposition as given above is probably that it sounds well enough on paper but that he probably would not get the sort of transportation that he wanted, when he wanted it, at the proper place, if he had to draw it from a pool. He wonders what would happen in emergencies when he needed transportation in a hurry. He concludes that he would rather do the work himself, so that his transportation requirements would not have to be filtered through anyone else.

His attitude is of fundamental importance. Transportation is presumably assigned primarily and basically to serve the needs of the organization. There is consequently a fundamental failure whenever serviceable vehicles are not promptly at the place needed, no matter what the time. If the failure is due to the system, that system is bad. For this reason, an arrangement must be made which will be as satisfactory to the unit commanders as would be the case under any system. The method used in the 69th Coast Artillery has been for the battery commander to estimate (and later determine by actual experience) his vehicular needs for tactical and emergency use. These vehicles are then assigned to the exclusive use of his battery. They are driven by his own men. They are absolutely under his control for use at any hour of the day or night. They are as much his for use as they could be under any system.

The arrangement differs from the usual transfer in that the cars are assigned for use only, and no property transfer to the unit commander occurs. The unit commander provides two competent men from his organization for every vehicle assigned to him, to act as driver and assistant driver. When selected, these men report to the transportation officer for test and training and either may be rejected by him at any time if unsatisfactory, whereupon the unit must furnish another acceptable man in his place. These men must be furnished in any case, so that the system described does not involve any unusual demand. The man assigned as driver signs to the transportation officer for the truck and its equipment. Thereafter, until relieved from the assignment, he alone may take the truck out of the motor park and no one else may drive it except the assistant driver in the presence of the regular driver. This completely centralizes the responsibility for each vehicle upon one man. Enough vehicles are assigned to each unit so that there will always be a sufficient number even when some of the drivers are sick or absent for any reason. The two men assigned to each truck are used for maintenance work under the supervision of the transportation officer. Unit details are so arranged to permit at least one of these two men to be present on such afternoons as may be designated by the regimental commander for mainte-

nance. The unit transportation sergeants or their designated understudies report in charge of their respective details to supervise the work of maintenance. The work of all details is supervised by the transportation officer or his designated assistant. The responsibility for training these men as drivers also rests upon him. When the men regularly assigned to vehicles have demonstrated sufficient ability, other men in the regiment are given training as drivers in a similar manner. Drivers and assistant drivers are not expected or permitted to adjust carburetors or make repairs to their vehicles.

The unit commander notifies his own driving personnel as to when and where he desires his vehicles. They may be obtained at any time without going through any formalities. As previously stated, this arrangement smoothly accommodates the tactical and emergency needs of the unit without requiring any more personnel than would be necessary for a decentralized system. Routine hauling of food and other supplies and similar service missions, is not done by tactical transportation. The transportation officer is also supply officer and the commanding officer of the headquarters battery in the 69th Coast Artillery. Such vehicles of his as may be necessary make scheduled trips, are used in common by all batteries, and much wasted truck mileage due to duplication is avoided. Emergency service trips may be made by tactical trucks.

Since the drivers of tactical trucks are used only on tactical missions, there is nothing to prevent their use in drill after arrival at the drill positon, any more than in a decentralized system. They are never removed from the control of the unit commander except on certain afternoons which do not conflict with training programs, and then only for maintenance which would be essential under the other system.

The vehicles that are in excess of routine garrison needs are also in the custody of the transportation officer. They form a pool which makes it possible to replace at once any tactical vehicle which may require repairs that take more than 24 hours. This permits tactical transportation to be always one hundred per cent effective.

If considered desirable this system can be made to furnish a reduction in overhead, in the matter of personnel. There is an appreciable reduction in vehicle use without ever denying service. The operations as conducted at Aberdeen do not provide much if any reduction in personnel aside from freeing the battery commanders of firing batteries from such work (which is notable), because the men who would be used in the other system, but who are of inferior qualifications due to lack of experience, are used as assistants and given the training to make them competent. This provides a large reservoir of trained men and will make a change to unit responsibility a simple matter should it ever appear preferable. The reality of the advantages described under the conditions existing at Aberdeen at the present time has been demonstrated to our own satisfaction during the last seven months.

A Precedent of Propaganda

CAPT. T. J. BETTS, Coast Artillery Corps

ONE day in Peking the teacher whose unfortunate duty it was to teach me Chinese brought up the subject of military propaganda. Finally we got around to the World War procedure of sending free balloons, loaded with morale-sapping documents, into hostile territory.

"That was a very clever scheme," he said, "but of course we've known about it in China for centuries."

Incredulity must have shown on my face, or perhaps he was tired of hearing me mangle his native tongue. At any rate he embarked on the following anecdote.

In the period of the Three Kingdoms (A. D. 214-23), Liu Pei, Prince of Shu, assisted by Chu-ko Liang, the greatest strategist of all time, warred with the Mongolian nomads of Chin. Matters did not go well with Shu. The enemy made up in numbers for what they lacked in learning, and after a series of combats Liu Pei was forced to marshall his host in a concave bend of the Yellow River. Ignorant as were the men of Chin, they could not overlook the deadliness of such a maneuver. They had probably never heard of the Book of War, but even their low intellects could understand that an army so desperate as to cut off its own retreat was not to be treated lightly. They contented themselves with blockading the Shu army. At this juncture Liu Pei summoned Chu-ko Liang.

"Elder Brother", he said, "my heart is not at ease. Our position has deterred but it has not repulsed the enemy. I fear they may be so lacking in the very ABC's of tactics as to venture an attack and overwhelm us."

"Master," replied Chu-ko, "do not disquiet yourself. Your slave already has a plan."

Leaving Liu Pei, he repaired to the army and ordered them to construct an enormous kite. In the third watch of the night he seated himself therein, and upon his orders, several hundred of men flew it in the air. The wind was propitious, and presently he found himself high over the nomad encampment. At that late hour an almost perfect silence reigned. The camp fires smouldered a dull red that betokened approaching extinction. From his robes Chu-ko Liang drew a flute and played upon it a plaintive melody of the Mongolian plateau. The camp stirred beneath him. He played louder, this time a nomad lullaby in minor key. The fires leaped up, and he could hear voices raised in question and command. He played again, and chose a tune with which the Mongols were wont to grace their weddings. The noise beneath him burst into a roar. There was a flare of light as torches were kindled. The air trembled to a thunder of hoofs, and a long procession of flambeaux moved at a gallop away from the bivouac and toward the horizon.

Opinions differ (said my instructor) as to just why the Mongols were so affected. Some hold that, on hearing this music from the air, they ascribed

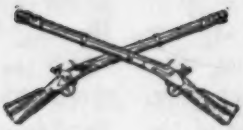
it to spirits or demons, and took it as a magic portent enjoining them to return to their own land. Others say that the beautiful rendition of their native songs produced an overpowering homesickness among them, which they could not resist. The Mongols have always been so unlearned that they have never been able to vouchsafe a satisfactory explanation. At any rate, they rode away helter skelter and the army of Shu was safe.

Chu-ko signalled to be pulled down, and found Liu Pei greatly perturbed; for, ever vigilant, he suspected from the tumult that the enemy was embarking on an unfair and unorthodox night attack. He had even ordered the kettle-drummers to uncase their drums, preparatory to beating to arms.

"Master," said Chu-ko Liang, "Do not be disquieted. The foe has fled."

Dawn bore out his words. Before the Chinese army extended an untenanted plain, overspread with a great booty of munitions, provisions and engines of war.

"So you see," concluded my pedagogue, "in this case, as in so many others including the notorious invention of gunpowder, the learned men of Han long ago forestalled most of your so-called discoveries. One cannot, of course, expect a junior officer and one scantily versed in our language to appreciate this fully. But surely your Great Captains must have read deeply from the Classics, from the tales of the Three Kingdoms, and from the Book of War. How otherwise could they have become acquainted with the simple stratagem of balloons which you mentioned a few moments ago?"



Battle Training on D. O. L.

CAPT. JEFFRY MONTAGUE, Infantry

THE object of all military training being success in battle, the officer on D. O. L. stops signing his name after a while to ask himself what training for battle he can possibly be getting in the thick of a lot of administration.

Here is an answer. An earnest soldier can self-school himself for war even while holding down a desk. Jackson, teaching dull subjects at the Virginia Military Institute, is a flashing example. He managed to maintain good physical condition, sound moral fiber, a receptive mind; to practice obedience, loyalty, promptitude, and accuracy; to read and ponder the lives of the masters; and he built up mind and heart to meet unshakingly, with ordered reasoning and bold decision, the tests of war.

D. O. L. duty offers advantages that help to compensate for the flat pocketbook it often causes. There come quiet periods that afford chances for research and contemplation. Take recruiting, for instance, here at Chattanooga, where we hand-pick Appalachian mountaineers, born rifle-minded. As the recruiting officer busies himself over the Chattanooga recruiting district, he may make opportunity to check up on how the principles of war were or were not followed in old-time campaigns and battles. He comes soon to realize that geographically Chattanooga was the strategical heart of the Confederacy, even though the brain centered itself at Richmond.

It is all right, reader, for you to raise an eyebrow at this point and recall the dictum that the enemy's main body and not some speck on the map is the true objective. Correctly taught; but that main body has to eat, and so the strategical problem is almost invariably found to be involved with a location such as that of Chattanooga, where roads, railways. and navigable water meet.

War being defined as a continuation of a state's policy by other means, the army may have to yield, perhaps up to the point of defeat, to the civil powers if they demand security of the capital—but neither Washington nor Richmond had the strategical value of Chattanooga.

In any event, epical campaigns and sanguinary battles were fought to determine which side should hold Chattanooga, then as now key to the whole southeastern position. In fact, it was the final, irrevocable loss of Chattanooga, which dates from the disintegration of Hood's army after the battles of Franklin and Nashville, that precipitated within a few months the collapse of the Confederacy on its eastern front. After the battle of Nashville there was nothing much left to the war except the mopping up, although the bards and reporters have made it seem that everything big happened near the two capitals. It was but a *coup de grace* that was struck at Appomattox.

Attention is invited to this for consideration in future research. For there must be endless backsighting

and foresighting into the manner in which Americans make war. European and Asiatic actions and reactions are to be investigated, of course, but it is the American we must put under the microscope. Those vast siege operations in which we became involved in Europe were an interesting phase of warfare, but American personal and geographical peculiarities dictate open warfare. Nowhere is there a better place to become familiar with its known characteristics than in the former Confederacy.

I have found, in tramping these then-called "western" battlefields, as I did when visiting fields in Virginia, Maryland, Pennsylvania, and elsewhere, that all the innumerable and necessary details of campaign and battle are eclipsed by an urgent desire to get at what were the mental processes of the commanders as they marched into the tumultuous collision. How did their minds and characters react when the battle crises confronted them?

The modern commander cannot brace his helm, lay lance in rest, advance his standard, and plunge into the mêlée. Lee almost did the like in the crisis at the Bloody Angle; and he rode the crest of an infantry wave into the grounds of blazing Chancellorsville in hot pursuit of Hooker, but those days have passed.

His head and not his stout right arm are what the commander is valued for today. That head must be bowed, often far back from the fight, over a situation map; must be quick with logistics, adjusted to the speed of today's movements; must be crammed with imagination to visualize the miles of his battle front and battle depth; must be and do that which shall deserve the zealous loyalty of his command.

One may picture Grant, thinking hard, anxious but undismayed, as the all-too-slow steamboat carried him back, temporarily, crippled as he was at the time, to turn panic into victory at Shiloh; or, at Petersburg, alone in the midst of many, biting his cold cigar, holding Lee pinned to the trenches, listening for news from Thomas, from Sherman, before he should throw his weight upon the Confederates and end the thing.

One may stand long at Savage Station and muse, in its present rural calm, upon the spasmodic morale of McClellan when he sent to Lincoln a last telegram over his lost York River communications, saying that he would try to save the remnants of his army—the same army that almost immediately fought so well at Malvern Hill.

One may attend in spirit that midnight conference that Lee held with Jackson on the roadside between Fredericksburg and Chancellorsville, from which the exemplary lieutenant was sent marching to fame. Lee is studied as an extraordinary general because he did not "ingloriously fly," as Hooker had a right to expect that he would, with 60,000 men against 134,000 (Steele), but had the cold audacity to divide his scanty force into three parts and attack with that fierce combativeness of which Longstreet complained and with which the gentle Virginian in some occult way could thrill his soldiers.

It would be worth a mint to the future leadership of the Army to have a stenographic report of that cracker-box conference amid the whispering

pines. No doubt there were long thoughts and short sayings in that hour of profound decision. We should grope for touch with the souls of such leaders as Grant and Lee, Sherman and Jackson, ponder all their known utterances, and consider even their manner and their expression to feel out how they came to make their decisions. The greatest strain upon the burdened commander is the necessity to make those fate-shaping *decisions*.

Philosophy has resolved all human action into the influence of will upon idea. But the philosopher cannot tell you what puts an idea into a man's head, or how. An idea, like will, is an abstraction. As the German poet wrote of love, "It comes and it is there." But every thinking man generates ideas out of a subconsciousness built up by custom, training, habit. The momentous thing then is to decide what to apply to the idea—good will, bad will, no will; positively, negatively, neutrally.

Shall I attack? Shall I retreat? Shall I stand still? Bragg faced those questions in a blur of indecision within sight of Chattanooga. He failed to fall upon Rosecrans as the Federals escaped in confusion from the sanguinary field of Chickamauga. He was compelled by Grant to fall incontinently from the heights of Missionary Ridge, weakly cursing his men for cowardice. Pity poor Bragg, gallant subordinate, inept commander, who could not fix upon a brave idea and apply to it a resolute will.

Instances of strange mental obliquity in the immense intricacy of strategical movements, and in the complicities of a roaring battle, are innumerable. Officers are of no greater value than ordinary men if they are unable to remain steady, to see, think, and decide correctly in the midst of tumult. That is what officers are for, and the expectation is that the officer's grasp will be equal to his rank.

Pope's brain blocked at Second Manassas. The situation got beyond his limit. He watched his devoted infantry divisions shatter themselves against Jackson, standing again like a stone wall, while Lee swung Longstreet upon the Federal flank and drove the mismanaged Army of the Potomac in one of the most stinging defeats in history. Picture Pope's bitter thoughts as he back-tracked to Washington and met McClellan, sent out to relieve him and rally the Army.

The ordinary soldier in battle does instinctively what he has been taught to do. The same is true of officers in their wider sphere.

The general reacts in campaign and battle, physically and mentally. The principal thing in his case is the character that he has built up within himself. He must cultivate it year in and year out by exertion of will upon idea.

The time to begin building up character for success in battle is the earliest possible time. General Smith did not miss it at all when he said that West Point is not just a school for second lieutenants; that its concern is to produce generals. But even the Military Academy cannot do more than lay foundations. The future general must construct the mind and soul that can think and act unerringly in battle. Even those of us who are on D. O. L. can think things over, and prepare ourselves for the day of battle.

The Matthews Type Mount and Machine Guns in General

LIEUT. ROTHWELL H. BROWN, 29th Infantry

The Prize Winning Article from the 29th Infantry

The machine gun is probably the most discussed weapon of Infantry today. The principal foreign powers are busy studying and improving machine guns, machine gun tactics and machine gun training. In our country machine guns were the basis of recent tests of a reorganized Infantry regiment held at the Infantry School. The machine gun is the recognized, if uncrowned, king of automatic weapons.

Since the first introduction of the Browning machine gun M. 1917 there has been but one major development attempted with this weapon. This began with the construction of the first wheeled machine gun mount by Lieutenant Matthews, and has continued to the improved model known as the Wheeled Machine Gun Mount, M 1, Improved type, or more commonly, the Matthews type mount.

During the past year, Company H, 29th Infantry, has been equipped with the wheeled mount and has given it intensive use. From July, 1929, to February, 1930, the entire 29th Infantry was engaged in testing various types of reorganized units, from the squad up to and including the regiment. In the course of these projects machine guns and the wheeled mount received a thorough test, covering fire power, mobility, and flexibility. In addition to this work there have been many demonstrations and problems for the various classes at the Infantry School. The present article is based on the information obtained and deductions made as a result of personal use and observation of this equipment.

There were a number of needs which led to the development of the Matthews type of mount. Chief among them was the necessity of providing a maximum of effective antiaircraft fire power by the use of all infantry weapons. The machine gun without a mount suitable for this work was practically useless against attacking planes, unit commanders could not count upon their weapon of greatest fire power at the very times when the utmost concentration of the fire of all weapons was needed.

Also, the M-1917 tripod and gun can not be transported by hand for long distances even in emergencies. Whether separated into loads or assembled and carried as a three-man load, only a cumbersome burden, quickly tiring to the carriers, results. Further, a minimum of three men are required to serve the gun: No. 1 to carry the gun; No. 2, the tripod; and No. 3, the water and ammunition. An there is provided no emergency ammunition, over and above the normal load of the No. 3, to be carried with the gun at all times.

Then too, carts and mules are extremely vulnerable when pushed to a position from which men can readily carry the gun forward; and a machine gun on the cart or while being carried by hand is at a disadvantage against surprise attacks; it cannot be pushed forward fast enough to cover reorganizing infantry from counterattacks; nor is there a T-base with the gun to provide stability for overhead fire.

Does the Matthews type mount correct all of these things? To answer that question we must examine a little into the use of machine guns.

Machine guns now have two separate and distinct missions; ground fire and antiaircraft fire. The ground fire mission of the machine gun can be divided and classified under two heads, the attack mission and the defense mission.

In the attack mission machine guns must give close support to advancing infantry; therefore they must be able to advance rapidly and go into action quickly. They must be capable of delivering fire at a range of 300 yards or less. They must be able to take every advantage of cover and protection, however slight, because they will be exposed to direct fire. They must be able to take advantage of gaps in the line if no other positions are available. They will use direct fire only, because no time will be available for securing data for indirect fire.

In the defense mission machine guns will have some time for the preparation of position, the definition of targets, and the establishing of final protective lines. On the defense they must be able to deliver accurate fire on any given area in the shortest possible time; this fire must be extremely accurate, because it is often necessary to fire either over the heads of friendly troops or directly along the front of an occupied position. Long-range overhead, indirect fire, although delivered in supporting an attack, requires the time, care, and is therefore classified under the defense rather than the attack mission.

The machine gun, then, has three missions, each of which demands that the weapon have certain very definite characteristics. Does the wheeled mount enable the machine gun to do all of this varied work? Let us see.

For the antiaircraft mission the Matthews type mount has many advantages. Its weight is sufficient to provide stability. It permits going into action with little delay and confusion. It has one drawback, which may be overcome by later developments in antiaircraft adapters—the height of the gun is not quite sufficient and the gunner is forced into a strained and awkward position. However, since the duration of antiaircraft firing is short, this is not of paramount importance.

For the attack mission the Matthews type mount can be pulled into position and served by two men. It can be swung into position at the first threat of counter or surprise attack. It also has an emergency supply of 1500 rounds of ammunition with it at all times. However, mount is comparatively large and presents a target which will quickly attract attention. Firing from the wheels is not satisfactory; the gun is high and visible at long ranges, and with the present model, it is impossible to level the dial and have the leg clamps tight at the same time. Even if this structural

defect is overcome, as it undoubtedly will be, there still remain many disadvantages. It cannot be pushed forward to close range because it makes too good a target. In terrain which provides but little cover the Matthews type mount stands out prominently. For following up rapidly advancing infantry it is too large and too heavy. It is too bulky to take advantage of small folds and holes in the ground. When being dragged forward by two men, it is quite easily distinguishable as a machine gun, whereas men carrying the gun and tripod separately appear to be advancing riflemen. In rough and swampy terrain it is at a distinct disadvantage and exhausts its crew very quickly. However, the Matthews type mount on wheels can be used at medium ranges where cover is available, or when positions for sight defilade can be secured, without too much loss of time. Firing with the wheels off is believed impracticable due to the exposure of men and the length of time necessary in order to level the T base.

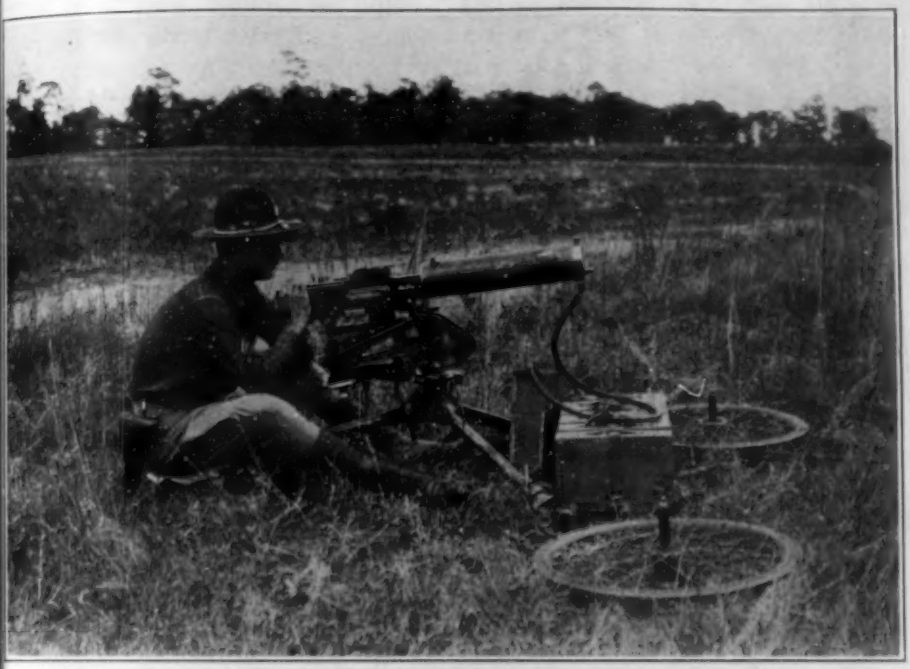
For the defense and long range overhead fire missions, the Matthews type mount is excellent. The permanent T-base provides stability. Accurate fire can be delivered without fear of settling, jarring, or vibrating completely off the target. In the defense the use of the T-base simplifies the construction of the machine gun position. For long-range, overhead fire the T-base can be leveled and settled while the battery commander is securing his firing data.

For putting the mount in positon off wheels the wheels are removed and laid to the right and left with the pintles up to prevent them from becoming clotted with dirt or sand. The weight of the T-base is sufficient to absorb all vibrations, and the stability of the mount is increased by the weight of the ammunition on the rack in front of the T-base; it is therefore not necessary to place sandbags on the trail legs. A further advantage is that the gunner can assume the normal firing position. The only disadvantage is the time necessary to remove the T-base from an emplacement, and go on wheels again for a considerable move. This, however, is but little longer than with the M 1917 tripod and gun.

There are other advantages of the Matthews type mount. In case of the loss of animal transport it can be dragged by man power for much longer distances than the tripod and gun could be carried. By using the emergency rope on the cart four, or if necessary six men could assist in getting the gun forward.

For training purposes in National Guard and Reserve units that have no animal transportation, this should be a decided advantage. Also, in time of mobilization, when there may be a shortage of animal transportation, machine gun units equipped with the Matthews type mount could carry on machine gun training quite thoroughly while awaiting the animals.

The accompanying illustration shows one method of using the emergency rope and draw-bar that are part of the equipment of the machine gun cart. When the mount is drawn on roads in this manner little effort is required of the men. In emergencies each man could carry two boxes of ammunition by means of carrying slings. One or two men can be used as pushers when going up hill or over rough ground.

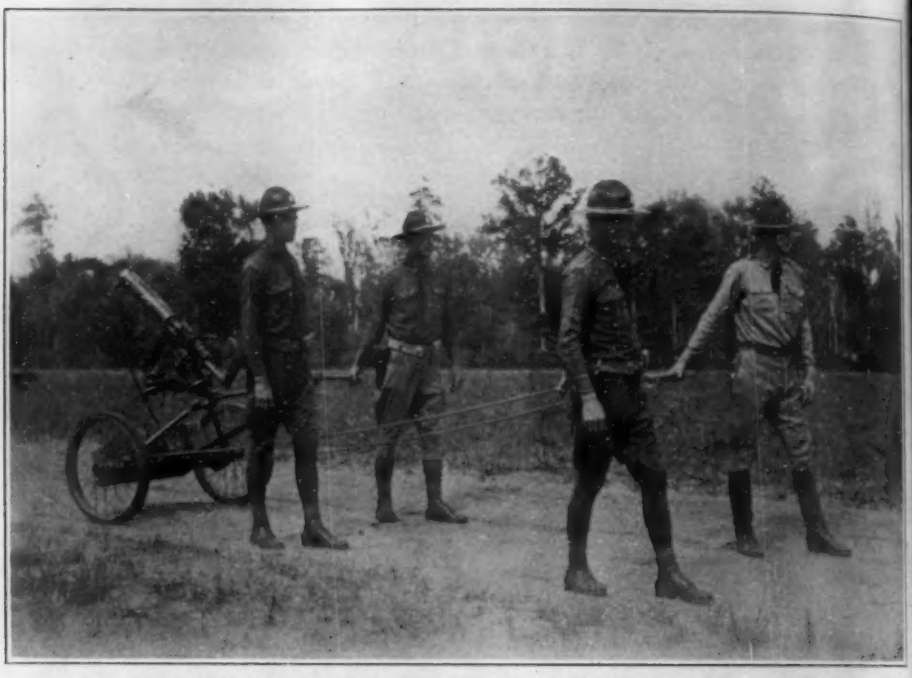


Matthews Type Mount, Off Wheels, Excellent for Long Range Overhead Indirect Fire.

The draw-bar pull of the Matthews type mount on a smooth surface is from 12 to 16 pounds. With four men pulling, it is only three or four pounds per man, which is certainly not excessive. The gun may be pulled mounted in the antiaircraft firing position, as in the picture, or it may be mounted for ground fire, depending upon the situation.

Now let us see, in recapitulation, whether the wheeled mount has solved all of the problems which led to its development, and whether it enables the machine gun to accomplish its three missions. It has a permanent and stable T-base; it provides for emergency ammunition; it gives a suitable mount for antiaircraft firing; it can be carried much farther forward than carts are capable of going; it can go into action against surprise attacks quickly and efficiently; it is excellent for defensive and overhead indirect fire, but, because of its weight and bulk, it cannot closely support attacking infantry. The wheeled mount enables the machine gun to accomplish its new and important mission of firing against aircraft; it is a decided improvement for defensive and long-range overhead fire, but it does not solve the problem of closely supporting attacking infantry, is in fact not so satisfactory in this respect as the M-1917 gun and tripod.

If we now look more closely at the problem to be solved we may see whether the Matthews type mount is at fault because of some flaw in its construction, or whether the three main missions of the machine gun simply cannot be solved by one mount. We have found that the mount is sat-



A Method of Pulling the Wheeled Mount by Hand Using the Emergency Rope and Draw-bar Off the Machine Gun Cart

isfactory for antiaircraft and defensive firing. Why does it fail in its attack mission?

A boat designed for ocean travel cannot be used on a shallow river. A dog cannot go down a rat hole. The machine gun mount which is satisfactory for antiaircraft and defensive firing cannot make the machine gun into a machine rifle, which is what the machine gun is supposed to be when it is used to support attacking infantry. The flaw is not in the mount, but in the purpose of the mount. No one mount can be devised which will enable the machine gun to perform efficiently as a machine gun in some instances and as a machine rifle in others.

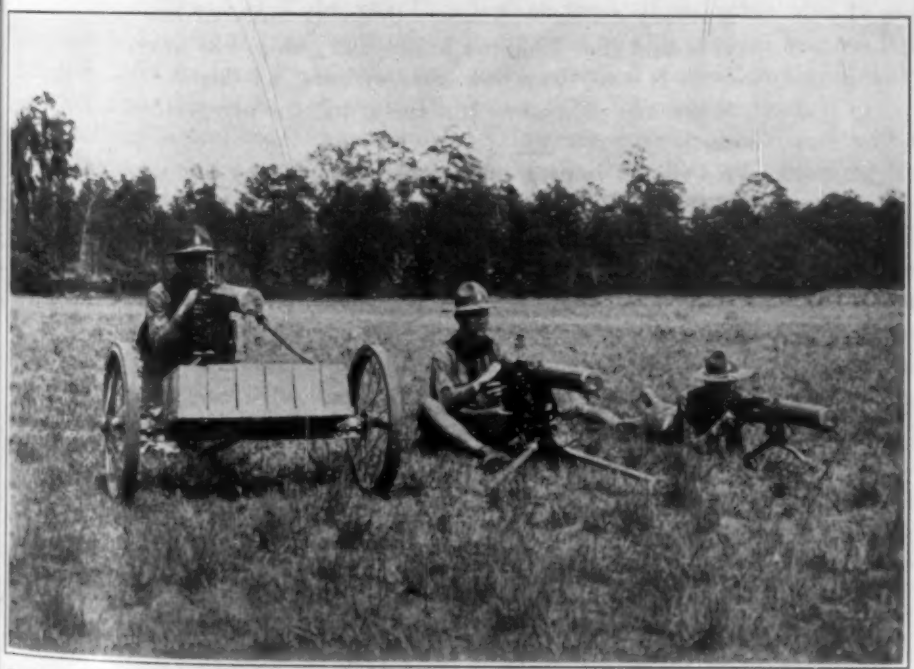
The factors of height and weight, which are responsible for the superiority of the mount in the first two missions, are the very factors which preclude its use at close ranges in the support of attacking infantry. It fails because it is a machine gun mount, designed and built for a machine gun. It is possible, with a different type of mount, to cause the machine gun to approximate the machine rifle; but any mount which does this will have only the one limited use, and by its very nature cannot be suitable for any other type of fire. As to the necessity of having this strictly combat mount capable of antiaircraft fire, there are grave doubts whether any automatic weapon can shift its fire from a ground target to an air target while under heavy and close-range fire.

At present there are only two automatic weapons in the Infantry, the automatic rifle and the machine gun. If there is to be no further develop-

ment, or at least training of units equipped throughout with fully developed automatic weapons, until the next war, it is necessary to use what we have on hand. Therefore the machine gun must be adapted for use as a machine rifle. At the same time we must not lose sight of the fact that it is only adapting a weapon to a use for which it was not primarily designed and for which it is not particularly suited.

If the machine gun is to give close support to attacking infantrymen it must be able to keep up with them. It must be on the job at all times. When the fire of machine guns is needed, it is needed at once. If it is ten minutes too late because a heavy mount became bogged down in a swamp or because an exhausted squad could not keep up, it is of no value. And in thinking about this we must remember that fresh, well fed, peacetime, garrison soldiers can do many things that the half starved, cold, exhausted, war-time soldier will find impossible.

In view of these things, let us use the Matthews type mount where it is supreme—for antiaircraft and defensive firing. Let us, where the situation demands a heavy stable mount, but where, because to lack of cover, the bulky Matthews mount cannot go into position, remove the M-1917 tripod from the Matthews mount. Let us develop a lightweight bipod, tripod, or mount which can be carried strapped on the trail leg of the Matthews mount—a mount that is light enough to be pushed forward rapidly, that can be fired in the prone position and that will afford but a small tar-



Left to right: **The Wheeled Machine Gun Mount M-1, The M-1917 Tripod, The Experimental Tripod**

get—a mount that can keep up with attacking infantry, so that it will be on the ground in time to cover their reorganization, when machine gun fire is of vital importance. The experimental tripod shown in the illustration weighs but ten pounds. Note that with the Matthews mount the gunner is in the kneeling position, with the M-1917 tripod he is sitting, and with the experimental mount he is in the prone position and presents but little more target than a rifleman.

If this plan is followed the machine gun will be equipped to deliver every type of fire for which it can be called upon. It can be depended on for anti-aircraft defense, long-range overhead fire, and it will be able to advance with attacking infantry with some assurance of having men available to serve it. Any automatic weapon is doubly a loss when its crew has been killed before it has gone into action. We cannot have everything in the one mount; therefore it is imperative that we have an extra mount to fill the one great need.

Modern Maxims

CAPT. M. B. DRISCOLL, O.R.C.

Fools pray for wings, wise men build them.

Anthony talked of Caesar, Octavius imitated him.

It is said that England has mystery ships—so have we. It is a mystery how some of ours can float.

When the politicians run the army, the army runs home.

No nation is safe enough to have nothing but ex-soldiers.

Not to recognize another nation may be moral, but it is foolish not to recognize another nation's army.

A prudent nation hides its plans, but not from itself.

A tailor can make a uniform, but it takes a nation to make a soldier.

Don't be a soak—soak your enemy.

A monocle lets in enough food for some brains.

When an enemy talks war he may be bluffing; when he talks peace, he always is.

A Demonstration Initiating a Course in Indirect Laying, Machine Guns

CAPT. A. S. NEVINS, Infantry

OFFICERS and noncommissioned officers who are not experienced machine gunners find that their principal difficulty in the study of indirect laying is in securing a mental picture of the problem involved. Indirect laying is simple and requires only facility in the use of arithmetic and some knowledge of map reading, yet many students consider it involved and difficult because they are unable to visualize the problem. The question that members of a class in indirect laying probably ask most frequently is, "What do I do next?" Students repeatedly tell the instructor that they have no specific question to ask, but that they can not seem to remember any logical order or sequence in the solution of the problem. Since the steps in the solution of an indirect laying problem are actually so simple and logical, the difficulty lies in a failure to visualize the situation.

In an effort to make the subject of indirect laying less abstract and theoretical, the ground or TOG (target, observation point, gun) method is now taught at The Infantry School before the map method is studied. The training regulations and various explanations of indirect laying discuss the map method first, and as a consequence this method, which is the more difficult to visualize, has usually been taught first. It is a fact that many officers and noncommissioned officers have difficulty in forming good mental pictures of terrain from a map, and it is therefore impossible for them to visualize a problem in indirect laying placed on a map which gives them only an indistinct picture. Consequently, it seems good practice to teach the ground method of obtaining indirect laying data before the map method, and experience at The Infantry School has indicated that this is the better scheme of instruction. In addition to the fact that students find the ground method less abstract, it is better also to put more time on this method because it is more practical and is employed more often than the map method.

However, even in class-room study of the ground method of obtaining indirect laying data, inexperienced machine gunners have considerable trouble, so it seems that further efforts must be made to give them a better picture of the problem. It is not enough to plunge into the theory of indirect laying in the class-room and trust to the imagination of the students. As a consequence, it is believed that the initial conference on indirect laying should be held in the field, and that it should follow fairly closely the procedure outlined in the following paragraphs.

The class, equipped with field glasses and fire control tables, should be seated

in rear of a single gun mounted on a T-base out in the field or on a range where ball ammunition may be fired. The instructor explains that, in indirect laying, machine guns are usually fired in batteries of two or more guns but that the principles involved are similar to those employed in the firing of a single gun, and that, as the study of a single gun is more simple, it is taken up first. The gun is fired by means of direct laying at a target which is on the same horizontal plane as the gun and at a known range, for instance 600 yards. Tracer ammunition is used if observation of strike is poor.

The theory of direction is now explained. It is pointed out that, in direct laying, correct direction is obtained by means of sight alignment on the target, but that in indirect laying the target is not visible to the gunner. The gunner may lay the gun on a visible initial aiming point and turn through a known horizontal angle in order to be laid on his target for direction. This method is demonstrated. The gun is laid on a large tree or other prominent object to the flank, dial and rear sight zeroed, the gun is turned by means of the dial and rear sight through the correct horizontal angle, previously measured, (the target being concealed from the gunner by means of a screen), an aiming stake is established, and a burst is fired to show that the direction is correct. The class learns by observation, assisted by the instructor's explanation, one method of laying for direction, what an initial aiming point and a base angle are, how to turn a gun through a given horizontal angle by means of dial and rear sight, and how to establish an aiming stake. The instructor then explains that correct direction may also be established if the azimuth of the line from gun-to-target is known, and demonstrates laying the gun for direction by means of an aiming circle on a magnetic azimuth (previously determined), the target being concealed from the view of the gunner by a screen as before, and a burst fired to show that the correct direction has been established.

The theory of elevation is now explained and demonstrated. It is explained that in direct laying correct elevation is secured by laying the gun on the target with the proper range set off on the rear sight. The target being invisible to the gunner in indirect laying, elevation is obtained by means of a clinometer or spirit level. In other words the correct elevation is laid off in mils from horizontal. The class is reminded that the firing has been at a target on the same horizontal plane as the gun, so that in this case the vertical angle between the line gun-target, (line of site) and axis of the bore when the gun is laid to hit the target (angle of elevation) is the same as the vertical angle between the horizontal and the axis of the bore (quadrant elevation). The class turns to Table 1, Fire Control Tables and finds that the correct Angle of Elevation for 600 yards is six mils. The gun is now laid for elevation by means of the clinometer, and for direction by means of an aiming stake, and aburst is fired, demonstrating to the class that elevating the axis of the bore six mils above the horizontal, which in this case is also the line of site, secures the correct elevation. A new target at a known range is selected which is above

the gun, and a member of the class measures the angle of site by means of an aiming circle. Assume that the range is 700 yards and the angle of site is plus 10. The class turns to Table 1, Fire Control Tables and finds that the angle of elevation for 700 yards is 11.9 mils, i. e., to hit the target the axis of the bore must be elevated *above the line of site,* or line gun-target, 11.9 mils. The line of site being 10 mils above the horizontal through the gun, the axis of the bore must be elevated 10 mils from horizontal for angle of site and 11.9 mils additional for angle of elevation, or 21.9 mils. The angle from the horizontal through which the axis of the bore must be elevated (quadrant elevation) is therefore equal to the sum of the angle of site and the angle of elevation. Direction having been established by an aiming stake, the target is concealed from the gunner by a screen, plus 22 mils elevation is set off on the gun by means of the clinometer, and a burst is fired to demonstrate that correct elevation has been obtained. Another target, below the gun, is selected, and a demonstration conducted to show that in this case the correct quadrant elevation is equal to the angle of elevation minus the angle of site. The general conclusion is then pointed out, viz., that the quadrant elevation is equal to the algebraic sum of the angle of site and the angle of elevation. The attention of the class is directed to the fact that the only possible cases have been covered, target on the same horizontal plane as the gun, target above gun, and target below gun. The class has now had, in addition to the demonstration of the theory and the two methods for obtaining direction, a visual demonstration of the theory of elevation. They should henceforth have little trouble with the terms, angle of site, angle of elevation, and quadrant elevation.

The class is next given an explanation and demonstration of the theory relative to mask and troop clearance. The class is moved to a safe position from which it can observe the firing of a gun sited in position defilade. The instructor points out the fact that this is a simple application of indirect laying, but that the principle is the same as if the mask were large and at a greater distance from the gun. It is also explained that indirect laying is based on the truism that, a gun being laid in the proper direction and given the correct elevation and fired, the target will be struck if any intervening mask is cleared. The members of the class is reminded that they have seen demonstrated the methods of securing proper direction and correct elevation and that the third fundamental of indirect laying, mask or troop clearance remains to be visualized. They are advised that the gun is laid in the proper direction by means of an aiming stake and that the quadrant elevation to hit the top of the mask and to hit the target have been figured. Let us assume that in this instance the quadrant elevation to hit the mask 100 yards from the gun is eight mils and the quadrant elevation to hit the target is 20 mils. The gunner fires a burst with quadrant elevation eight mils, using tracer ammunition, and the class sees that quadrant elevations are figured to place the center of the cone on the object to be hit, i. e., approximately half of

the burst clears the mask and half strikes it. The gunner then fires a burst with quadrant elevation 20, which clears the mask and strikes the target. It is pointed out that the center of the cone has been raised 12 mils (20 minus 8), and that the clearance is therefore 12 mils. The class turns to Table III, Fire Control Tables, and finds that in order to get the lowest shot in the cone to clear a mask at 100 yards range from the gun there must be 4 mils clearance, so that in this case the clearance over required is 8 mils. The instructor then points out the similar method used in determining troop safety, explaining the additional safety factors which make the required safety angle so much greater than required mask clearance for the same ranges.

This concludes the demonstration, and the class is now ready to proceed with the solution of simple single gun, single OP, TOG problems. The students have been given the mental picture which is so tremendously valuable to the inexperienced machine gunner in taking up the subject of indirect laying.

Modern Maxims

Capt. M. B. Driscoll, O.R.C.

A nation with few victory days is either young or dead.

A censorship may muzzle critics, but it cannot muzzle the enemy's guns.

Persons without pockets for maps often find pockets for flasks.

When military life is stale the nation has moulded.

Many a spy sneaks around for a month to get what the Stateman's Year Book would give him in two minutes.

Fine uniforms attract the eyes of your friends, and the guns of your enemies.

Cards were invented to amuse a king; when the king grew up, fools took the cards.

Silent people may be fools, but they do not insist on proving it.

The army can develop a body, but it cannot create one.

War is different from most evils; the more you run from it, the more you lose.

Public Good Will Towards the National Guard

1st. Lieut. W. H. Rose, Infantry, West Virginia National Guard Reserve

AMONG the problems that confront the commander of a National Guard unit at a one company station is that of creating favorable public opinion. ,It rests with the commanding officer whether or not the citizens of his community look with favor upon his unit.

The armory can be the scene of many public events in which the National Guard will have the leading part, causing a large number of influential citizens to become acquainted with the Guard and to learn its ideals. On these occasions when citizens visit the armory they should be met at the armory door by the company commander and given a hearty welcome. Designated officers should conduct them through the supply room and over the armory. Equipment should be displayed and its use demonstrated for their benefit. It is well to have several members of the organization present who are especially familiar with the equipment for these demonstrations.

Many organizations find it of value to have an annual "visitors night", at which time invitations are extended to the city's business leaders, men high in political life, and members of civic clubs to visit the armory. Usually for these occasions the state adjutant general and higher Guard officials are asked to be present. Some organizations also have what is known as "family-night", at which time the members of the immediate families of the Guardsmen are asked to visit the armory. For the above two affairs special "show" drills are prepared and some entertainment given. A bowl of punch and cigars are provided. To secure favorable newspaper mention, extend an invitation to the editor of the local newspaper to be present for these affairs.

For visitors day at camp the middle Sunday is generally conceded to be the best time. Have the enlisted men extend their own invitations for this day. It will usually be necessary to provide refreshments for these visitors, for which a small sum will have to be paid into the company mess fund by the individual soldiers who have guests.

A publicity "stunt" that can be used to a good advantage at the close of the annual summer encampment is to pay the men in cash instead of the usual company commander's personal check. When making payment use silver dollars as far as possible, asking the men to spend them through local stores in the way that they would have spent their checks. This plan will call attention to the guard in a forcible way and will prove to the merchants

of a town the economic value of such an organization. These silver dollars will be in circulation for many months after leaving the company commander's hands and will be known as "army dollars".

Respect and good feeling can be further developed by the participation of the organization in the affairs of the American Legion and other veteran societies—*that is, if the National Guard has been asked to take part in such affairs.* This participation may include an annual parade on Memorial Day, Fourth of July, or Armistice Day. A firing squad should always be furnished for the ceremony incident to the funeral services of a deceased veteran. In the event of a death in the family of a citizen soldier, have a wreath bearing the designation of the organization sent to the bereaved one's home.

The cooperation and good will of the local county chairman of the Citizens Military Training Camps Association should be gained. This can be brought about by encouraging members of the Guard company to attend the CMT camps.

With most organizations, medals and trophies that are won in camp are usually presented to the personnel on the last Friday or Saturday of the training period. It is a good idea to have these medals and trophies represented to the Guardsmen on their return from camp. If possible, have higher guard officials present, and extend to the general public an invitation to witness the presentation ceremony.

The value of public opinion cannot be over-estimated, because the people who pay taxes support the Guard. National Guard commanders who appreciate this fact, and extend to civilians the courteous consideration to which they are entitled, will assure an increase of public good will towards the National Guard.

Notes from the Chief of Infantry

Commissioned Personnel, Office Chief of Infantry

Chief of Infantry
MAJ. GEN. STEPHEN O. FUQUA

Executive
COL. LORENZO D. GASSER

Section I—*Personnel*
Col. C. C. Allen
Maj. E. F. Rice
Maj. C. C. Stokely
Maj. L. S. Hobbs

Section II—*Intelligence*
Maj. T. B. Catron
Capt. H. M. Melasky

Section III—*Training and Inspection*
Lt. Col. E. J. Moran
Lt. Col. B. Magruder
Maj. C. H. White
Capt. W. G. Layman

Section IV—*Arms and Equipment*
Lt. Col. E. Butcher
Maj. J. D. Patch
Maj. H. Terrell

Section V—*Mobilization and Organization*
Col. F. W. Bugbee
Capt. P. E. Leiber

Distribution of TCSW Carriers

THE Chief of Infantry has requested the Quartermaster General to distribute the 43 TCSW carriers now being assembled at Camp Holabird, Maryland, as follows:

17 to the Commanding Officer, 2d Battalion, 1st Tank Regiment, Fort Benning, Georgia.

26 to the Commandant, The Tank School, Fort George G. Meade, Maryland.

Thirteen of these carriers have already been delivered to the Tank School and five to the 2d Battalion, 1st Tank Regiment.

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Phillips Pack Saddles to the 11th Infantry for Test

THE Chief of Infantry has approved the issuing to the 11th Infantry, Fort Benjamin Harrison, Indiana, of three Phillips pack saddles, cavalry type; three machine gun load hangers; and three ammunition hangers of the four-box type. This equipment comprises a complete unit and permits the elimination of one machine gun cart and one machine gun ammunition cart.

This equipment was to be used by the 11th Infantry during the march of the regiment from Fort Benjamin Harrison, Indiana, to Camp Knox, Kentucky, for Brigade maneuvers.

Adjustable Rear Sight for Tank Machine Gun

THE Tank Board has recommended and the Chief of Infantry has approved the Ordnance Department's undertaking the development of an adjustable rear sight for the tank machine gun to replace the present tubular rear sight and to eliminate the necessity of adjusting the front sight.

Tank machine gun firing has for its objective the placing of the center of the beaten zone on the target and neutralizing the fire effect of the enemy, rather than seeking individual hits. The argument is therefore advanced that a simple sight should have two ranges, one which places the center of impact on the beaten zone at about 450 yards from the gun, and the other about 800 yards from the gun. The method of changing the sight from one range to the other should be simple. The mounting of the rear sight should permit easy adjustment for parallelism and should be so constructed that the sight will not be thrown out of adjustment by vibration of the gun.

The adjustable rear sight presupposes a rigid front sight, not susceptible of adjustment, and so mounted that it will not be loosened by the vibration of the gun.

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Leiber Combination Hand and Rifle Grenade Fuze

THE Infantry Board reports that the Leiber combination hand and rifle grenade fuze described in last month's issue of the INFANTRY JOURNAL is practical and warrants a thorough test.

The Chief of Infantry has requested that the following material be sent for test with the Leiber fuze:—

25 fragmentation hand grenades, Mark II—to be of the practice loading type, except that the disk for holding rifle rods should be attached to the base of the body;

25 rifle grenades, smoke (WP), Mark I;

25 universal type candles (HC), type E2RE—to be fitted with disk fastened to the base of the container.

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Accrued Leave

There appears to be a misinterpretation of army regulations by some officers regarding the amount of ordinary leave with pay that may be accrued. Accrued leave is limited to four months, and all in excess of this is lost. An officer may have not to exceed four months' leave in any fiscal year; however, it is possible to obtain five months' leave if four months have accrued and the officer goes on a leave status between March 1 and June 1. That is, the month's leave that becomes effective on July 1 may be made continuous with the four months of accrued leave.

Distribution of Wheeled Machine-Gun Mounts

One hundred and twenty wheeled machine gun mounts, MI, that are being manufactured by the Ordnance Department, will, upon completion, be distributed to the following organizations, listed in order of priority:

Eight (8) each to the following:
The Commandant, The Infantry School;
3d Battalion, 12th Infantry;
34th Infantry.

Four (4) each to the following:
1st Infantry;
2d Infantry;
3d Infantry;
4th Infantry;
5th Infantry;
6th Infantry;
7th Infantry;
8th Infantry;
9th Infantry;
10th Infantry;
11th Infantry;
13th Infantry;
16th Infantry;
17th Infantry;
18th Infantry;
20th Infantry;
22d Infantry;
23d Infantry;
25th Infantry;
26th Infantry;
28th Infantry;
30th Infantry;
38th Infantry;
1st Battalion, 38th Infantry.

The basis of issue is one mount per machine gun. Funds are included in the estimates for the fiscal year 1932, for an additional number of these mounts, and by the end of the fiscal year 1933, it is expected that all organizations will be fully equipped with these mounts.

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Combination Entrenching Tool

THE Chief of Infantry has forwarded to the Infantry Board an improved model of a Belgian combination entrenching tool, known as the "Pelle P. V." The tool is a combination of a shovel, pick, and axe.

The first model of this tool was sent to the Infantry Board in April, 1930, and the improved article is to be tested along with the original.

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Projectors for Pyrotechnics and Grenades

DESCRIPTIVE matter and sketches of a project for use of the signal projector for projecting pyrotechnic signals and grenades have been submitted by the Chief of Infantry to the Infantry Board for consideration and recommendations.

The projector operates independently of the rifle, thereby relieving the rifle of the possibility of a broken stock and other injuries, and at the same time, permitting the use of increased charges to obtain the required height to signals and the range to grenades.

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Infantry Blue Saddle Blankets

IN order to initiate a test by the Department of Experiment at the Infantry School, the Chief of Infantry has been granted authority to have six olive-drab saddle blankets dyed standard infantry blue at the Quartermaster laundry, Fort Benning, Georgia.

Air Corps Officers to Visit Infantry School

ARRANGEMENTS are being made whereby the students of the Air Corps Tactical School at Langley Field and certain members of the faculty will visit the Infantry School at Fort Benning sometime during November of this year.

The purpose of this visit is instruction for both the infantry and air corps students. The tentative two-day schedule includes a demonstration by Infantry School troops of an infantry attack supported by tanks and artillery; an air demonstration by the visiting air personnel; an antiaircraft firing demonstration by the Infantry School troops; and, in closing, a general forum for the discussion of infantry-air corps matters.

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Code Practice Equipment

THE Chief Signal Officer has advised the Chief of Infantry that the initial lot—consisting of 53 sets—of code practice equipment, type EE-81, described in Technical Regulations 1215-10, is being delivered to the Signal Corps. The Chief Signal Officer requested a list of organizations to which these sets are to be delivered, and the order of priority of distribution. The following list was submitted:

10 sets to the Commandant, The Infantry School;
4 sets to the Commandant, The Tank School;
1 set each to the following:

Headquarters and Headquarters Company, 1st, 2d, 3d, 4th, 5th, 6th, 8th, 10th, 12th, 14th, 16th, 18th, 19th, 21st, 22d, 23d, and 24th Infantry Brigades.

Commanding Officer, 1st, 3d, 4th, 5th, 6th, 8th, 9th, 10th, 12th, 13th, 15th, 16th, 18th, 23d, 25th, 26th, 28th, 29th, 30th, 34th, 38th, and 65th Infantry Regiments.

The Chief Signal Officer stated that an additional quantity, believed to be sufficient to complete the requirements of the Infantry, was being purchased, but would not be ready for delivery for several months.

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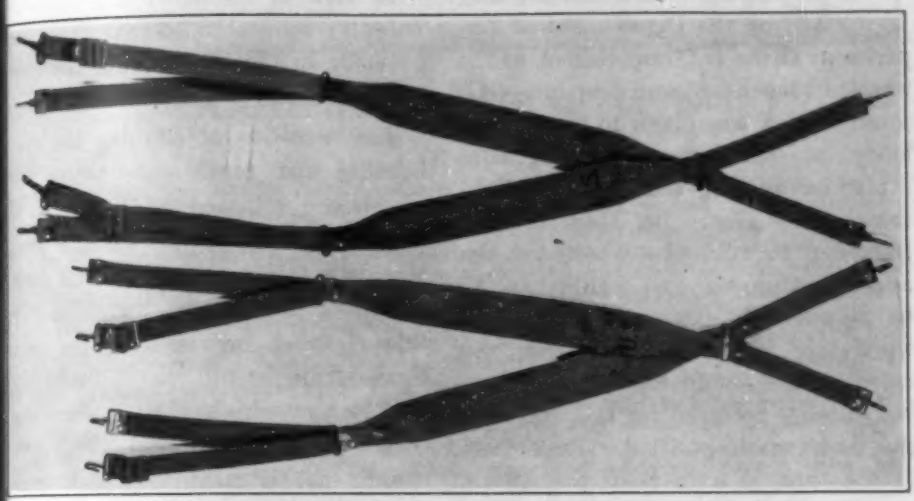
Colors of Demobilized Units

WHEN the 15th, 16th and 17th Tank Battalions were redesignated as components of the 1st and 2d Tank Regiments, the question arose as to the disposition of the standards and guidons of the original tank units.

At present, there is a project in progress whereby the colors, standards, and guidons of all demobilized and inactive infantry units are to be sent to the Infantry School for the purpose of incorporating them in an Infantry museum. In view of the fact that the newly designated tank organizations directly supersede the original tank units, it has been recommended that the standards and guidons of the 15th, 16th, and 17th Tank Battalions be retained by the 1st and 2d Tank Regiments as mementos of service.

Modified Cartridge Belt Suspender



Upper, Modified Suspenders; Lower, Before Modification

THE Department of Experiment, under the supervision of the Infantry Board, has completed a test on a modified cartridge belt suspender. The suspenders before and after modification are shown in the accompanying cut.

All the modifications proved satisfactory, and it was found that the suspenders were of most benefit when adjusted so that the weight of the loaded belt was kept off the hip bones. This can be done and the belt can be worn evenly around the waist when the back straps of the suspenders are hooked two eyelets apart on the pistol belt, and between the next to last and the last pockets on the cartridge belt.

The Chief of Infantry recommended that the suspenders as modified be made standard for manufacture and be issued at the rate of one to each mounted enlisted man of Infantry armed with the rifle. These suspenders are to be issued in lieu of suspenders, cartridge belt, model 1907.

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Linseed Oil Allowance

PARAGRAPH 49, Technical Regulations 1395-A, prescribes raw linseed oil for polishing stocks of rifles and specifies how it should be applied, although there is na allowance for rifle companies.

The Chief of Infantry has recommended that the regulations be amended so as to prescribe an allowance of two quarts of raw linseed oil for each 100 rifles and automatic rifles, or fraction thereof, for a six months' period.

The Wheeled Machine Gun Mount Axle

IN connection with a test recently made by the Department of Experiment at the Infantry School, of the wheeled machine gun mount, M1, consideration was given to the advisability of making the wheels non- a manner as to permit their folding. detachable and hinging them in such In order to fold the wheels in the upper position the axle would have to be considerably extended, and, if the wheels are folded under the axle, the entire mount would have to be raised the distance required for the wheels in the underneath position. Regardless of the type of axle used, the wheels must be taken off at times in order to remove accumulations of dust and dirt.

In view of the above, the Chief of Infantry recommended that no change be made in the form of the axle now on the cart.

The necessity of cleaning the axle housing and pintle axle before the wheels are attached to the T-base is considered of prime importance, especially when the T-base has been placed on the ground for firing. If this cleaning operation is not performed, there will be difficulty in locking the wheels and in removing them after they are locked. With each mount that is manufactured instructions will be issued stating the necessity for cleaning and a suggested manner of procedure.

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Test of Creosoted Tent Poles and Pins

PURSUANT to a request of the Quartermaster General, the Chief of Infantry has given authority for the Infantry Board to run a service test on tent poles and pins that have been creosoted. The test is to include determining whether or not the creosoted material, by contact with the canvass, will leave objectionable stains.

The life of the creosoted poles and pins is to be tested by actual use, and at the same time, setting up a tent with poles and pins not creosoted, and observing the contrast in deterioration of the treated and untreated material. In this test the poles and pins are to be removed once a month in order to simulate service conditions of using the poles and pins in the process of setting up and knocking down of tents.

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Rosters of Officers

THE rosters of officers assigned to infantry regiments and brigades, which heretofore have been published in the INFANTRY JOURNAL twice a year, usually in February and October, will hereafter be published but once a year.

This decision was reached in view of the fact that from October to February there are relatively few officers changing station, and the two rosters were considered unnecessary.

The roster for the fiscal year, 1930-31, will appear in the December issue of the INFANTRY JOURNAL.

Reviews and Discussions

Current Events Overseas

Foreword

UPON invitation by the Journal, officers of the Department of Economics, Government, and History at West Point will present for the next few months in these columns comments upon current events in the various countries across the water. It is hoped that these comments may help the readers in following, and understanding the significance of, some of the most important movements in current social, political, and economic fields. If the readers of the Journal feel that these articles are of interest and value, the series may be continued.

One great difficulty in the preparation of such articles lies in the time which must elapse between the writing and the reading of the printed material. Thus today, September 26, I am writing this Foreword for the issue due November 1. When events of world-wide significance are occurring in such rapid succession—Russian grain sales undermining prices; German election returns with their strong communist and fascist results; a new secretary-general for Mussolini's black-shirts; an imperial conference due in London; unemployment creating new problems day by day; France and Italy glaring at each other across the Alps, and Italy and Jugo-Slavia across the Adriatic; Spain holding down a possible outbreak with Berenguer at the wheel:—when the situation is so tense in so many directions, our comments may be out-of-date by the time they appear in print.

The officers have this difficulty in mind. They will frame their articles in an effort to make them most valuable as an interpretation and explanatory record of events, so that, even if startling new developments have taken place since the writing, the material will still be valuable for the reader as background knowledge.

The world overseas has been divided into six areas, as follows:

I. England and the British Empire.
II. Western Europe.
III. Central and Southern Europe.
IV. Eastern Europe.
V. The Balkans and the Near East.
VI. The Far East.

To each area an officer has been assigned, whose duty it is to watch developments through the month, collect material from the best sources, study it, and interpret it in his section of the article at the end of the calendar period. His interpretation is passed up to me a few days before the end of the month. And it is my interesting duty to edit the article as a whole before dispatching it to the Editor.

With this explanation of purpose, hope, and method of this series. I leave the article to the judgment of the readers.

LUCIUS H. HOLT, *Colonel*, U. S. A.
Professor.

I. England and the British Empire

R. B. R.

The world-wide scope of British interests, as well as England's position off the west coast of Europe, give England and the British Empire the first place among the areas discussed. And certainly, enough critical conditions exist in this area! We can select only a few of these for consideration.

Unemployment in England. Two million unemployed are now receiving the dole, and pessimism is rife. Leaders believe that still worse is to come, that the real crisis has not yet arrived. A group of representative business men have organized themselves in an effort to further a solution of the problem.

Their measures should be carefully watched, for they are attacking a problem which exists in all the major industrial countries of the world today. If they can work out a solution, other countries would eagerly follow. There is a prevalent belief, however, that the causes of the world-wide depression are beyond the power of the industrialists and statesmen of any one country to remove.

Domestic Politics. MacDonald was brought into power largely because the people wanted to try the proposed Labor panaceas for Britain's ills. These panaceas have obviously failed; and yet MacDonald remains in power. Why? Because neither the Conservatives nor the Liberals have any better plan than Labor has tried. It is better politics to let Labor bear the blame until the economic skies begin to clear. In the meanwhile, however, the radical wing of the Labor party embarrasses the administration by its heckling and its demand for "socialism in our time." The British electorate, however, is essentially conservative in nature, and the radicals and communists find little response to their apeals.

Imperial Conferences. Ministers of the dominions are arriving in England for the imperial conference of October. Australia, after facing bankruptcy under its Labor-Socialist government, has been aided by the Bank of England on conditions that it trim its budget and stop construction on non-paying projects. Canada has just turned its government about face, and put into effect a tariff obviously aimed at United States products. South Africa, always a bit restive, threatens to bring up the question of the "Right of Secession." But probably the most interesting discussion of the conference will be about a plan for free trade within the British Empire and a high tariff wall against all outside—a plan advocated by the press magnates heading the new United Empire party. With the varying interests of the great dominions, such a plan seems politically impossible, but the discussions should be most interesting. It is worth noting, however, that all important interests in England now favor some degree of tariff protection. England has gone far from the old free trade days.

Continental Relations. The British ministry is most anxious for radical reduction of armaments, but can accomplish nothing until France and Italy come to some agreement in their respective naval limitations. So far, there have been evidences of negotiation, but no agreement. The pleas of Foreign Minister Henderson have accomplished nothing. The present British government, however, is definitely committed to reduction of armaments correlative with reduction by its neighbors.

India. The Simon report on India proposes that the dynastic government of the Chelmsford-Montagu pattern be replaced by provincial governments adapted in each case to the local situation and abilities; with a Federal Government of India whose assembly shall be elected by provincial legislatures. Efforts of conservative Indian nationalists to reconcile Mahatma Gandhi and the British government failed upon the former's impossible demands, which included complete self-government, right of secession, and general amnesty. The interference of the All India Conference Working Committee with efforts to compose the situation aided failure of the efforts. Winston Churchill has declared that

no parliament would grant India a dominion status. Hence the round table conference called for November will start under poor auspices:—refusal of Nationalists to cooperate or attend, a congeries of mutually hostile delegates, industrial distress in both countries due to boycotts against British goods, and Afridi disorders rampant on the northwestern frontier; an outgrowth of Russian subversive propaganda, hatred of Hindus, and a misunderstanding of the British position in the case.

II. Western Europe

D. A. F.

This area includes only two countries which have figured prominently in the news of the day: Switzerland, where the League of Nations Assembly has been in session; and France, which is always in the news.

The League of Nations. Keenest interest was centered on the fate of the veteran Briand's plan for the creation of a United States of Europe. The upshot proved that the time is not yet ripe for the project. The plan was finally politely shelved for another year by voting to refer it to a committee for further study. It will probably now descend into the limbo of dead souls, and may never be resurrected. Only a concerted and overwhelming popular demand for it throughout the leading nations of Europe can keep interest in it alive—and so far as is known, there is no evidence of such a demand.

French Domestic Political Situation. The repercussions of the astonishing gains by the German extremist parties have been striking in France. The steps taken by the government toward a rapprochement with Germany are now condemned by the press, and special antagonism is expressed toward Briand. Briand's prestige has suffered immensely, and it is very possible that when parliament convenes he may be forced out of the government.

The French budget has been prepared, showing an increase of 725,000,000 francs for military defense, and 1,000,000,000 francs for civil expenditures. Decreases in other branches, however, enable the government to point to a net decrease in the total budget of about 300,000,000 francs. However, the budget does not include the expenses for organizing the defense of the frontiers. It is expected that the Chamber of Deputies will be asked for a vote of confidence upon its merits when parliament convenes in November.

It is noteworthy that France alone has been spared so far the economic distress prevalent elsewhere. Industrial profits are good; no unemployment; and a huge gold supply. As to this last, France has been drawing in gold for many months past. Can it be that her statesmen are laying up a huge reserve for possible wars?

French Army Maneuvers. This year the French army held its annual maneuvers as two "fronts" instead of one. Besides the usual battle against an imaginary foe on the eastern front, 55,000 troops went through their paces in the mountains in the south. This was the first time for many years that France has held maneuvers on the Italian border. At the same time, War

Minister Maginot announced elaborate plans for a completely motorized army.

Franco-Italian Relations. Naturally, these maneuvers of French troops on the Italian border did not make for any better feeling between France and Italy. Nevertheless, France does not want war, and it is most doubtful whether Italy under present economic conditions can afford to fight. Italy is in the position of an aggressor in words, but these words are heavily discounted by those in a position to know.

Meanwhile, discussions in an effort to arrive at a naval agreement have come to no useful end. A new conference on disarmament is due early in November, but it will be hopeless unless Italy and France can compose their differences.

III. Central and Southern Europe

R. P. O.

Including as it does Germany, Jugo-Slavia, and Italy, in addition to Austria, Czecho-Slovakia, and Hungary, this area is one which is, and will be, continually of deep interest and significance.

Germany: The Elections, and Thereafter. By the time this number is in the hands of the readers, the political situation may have cleared: at the present writing, all is in turmoil, and prophecy is hopeless.

The elections of September 14 brought startling gains to the two extremist parties, the Communists and the Fascists. Together, they muster 40 per cent of the Reichstag against any center coalition. Negotiations are now going on secretly by which the premier, Bruening, hopes to create a coalition of more moderate groups and continue his government. His difficulties are enormous.

In the meanwhile, the Austrian, Hitler, at the head of the Fascists, clarified his political platform in evidence at a trial in Leipzig. He would gain power by constitutional means, then scrap the Versailles treaties and the Young plan, and prepare for hostilities.

It is useless to discuss further the German situation at the present moment.

Italy and Jugo-Slavia. In the early part of September, four Italian subjects of Jugo-Slav blood and sympathies were executed as terrorists. This incident brought almost to the boiling point international feeling between Italy and Jugo-Slavia; feeling that long had been seething and brewing trouble.

Jugo-Slavia never has forgiven Italy for blocking of the former's desires to obtain adequate seacoast along the Adriatic, especially Fiume, whereas Italy regards the Adriatic as properly an Italian lake. Jugo-Slavia charges Italy with systematic terrorism, imprisonment of 20,000 Croats and Slovenes, the murder of 2000 more, and plunder and burning of schools, libraries, and the like.

The aforementioned executions were followed by anti-Italian mass meetings throughout Jugo-Slavia and bitter comments in the press, yet the feeling there actually appeared to be calmer than in Czecho-Slovakia, Jugo-Slavia's ally in the Little Entente. In the latter country, feeling and speech were so bitter against Italy as to draw

official protest from the Italian government.

Italy has announced reorganization of the Fascist army and is supported by Hungary; Jugo-Slavia has the support of her allies in the Little Entente and of France. For the present, war seems most improbable, but friction doubtless will continue.

In the meanwhile, there are evidences of internal strain within the fascist group. Dino Grandi, minister of foreign affairs, seems to have been relegated to the background; and Turati, the secretary general of the Fascist party, has been replaced by Giuriati, a more pronounced militant.

IV. Eastern Europe

G. M. B.

Poland: Internal Political Situation. From Poland come reports of legislative difficulties. Late in August, Marshal Pilsudski, "the Iron Man of Poland," was not pleased with the running of affairs, so Prime Minister Witos resigned because the affairs of the state were "too much for his health." Pilsudski immediately took over the government. It was not long before fireworks started in the Sejm, Poland's lower legislative house. The dictator is a bitter enemy of this legislative body. On September 10 the Marshal jailed 18 of his political foes, including the former prime minister, Witos. This coup was intended to paralyze Pilsudski's opposition in the coming elections on November 16. Such high-handed methods are characteristic of the militant dictator of Poland.

Russia: Internal and External Economics. The outstanding feature of interest in Russian affairs at the moment is the government's effort to carry out the "Gosplan," or five year scientifically planned progressive industrial and agricultural increase. Almost two years have passed, and to the astonishment of the world Russia has in some branches actually surpassed the planned production for the period, in other branches has achieved its end, and in only a few has fallen below. The Russian leaders are exerting every effort to keep production steadily increasing up to the percentages planned, thinking that the justification of the Bolshevik brand of communistic government depends upon their success. The outside world, at first inclined to jest at the trial of planned production in a country the size of Russia, is now startled at what has been accomplished, and fearful of what lies in the future.

Within the last few days the world has had a foretaste of what may happen if Russian success continues. Millions of bushels of wheat have been offered at prices radically below the current quotations; the Chicago grain market has been thrown into chaos; the Canadian pool, holding a huge quantity of wheat at higher prices, sees no prospect of unloading; and the European markets are disorganized. With their low cost of production and standard of living, the Russians can put their immense harvest on the market far below a profitable price for American and Canadian growers. When they produce a surplus of other goods—now timber, oil, flax, barley, but perhaps in a few years manufactured articles—these, too, will reflect in a low price the low living conditions

and cost of production in Russia. It is a startling prospect.

In the meanwhile, loud complaints of Russian marketing methods are raised. Critics and sufferers say that the Russians are selling in order to increase economic distress and help the forces of discontent. A more reasonable view is that the Russians sorely need credits to pay for their large imports of machinery and manufactured articles, and that the Russians are marketing hastily their most easily obtained current assets to get this capital.

V. The Balkans and the Near East

D. H. B.

Outside of the human interest in the effort of King Carol to solve his marital, political, and economic difficulties in Rumania, the chief development in this area is to be found in the meeting of the Turkish Assembly at Angora.

Turkey: Internal Political Situation. On September 25, the Premier Ismet Pasha, submitted his resignation to Mustapha Kemal Pasha. It is expected that Ismet will be reappointed, charged with the duty of appointing a new cabinet. In the Assembly, however, an opposition party under the leadership of Fethi Bey has taken its seats and has opened already a sharp attack on Ismet Pasha and his policies.

Up to this time, the Angora Assembly has been a one-party parliament; now, with Kemal's approval, opposition is permitted, and, apparently, going to be encouraged. Kemal seems to believe that the time has come for the Turks to take one more step toward grafting western ways on to Turkish institutions. How the scheme will work out remains an interesting problem.

VI. The Far East

D. H. B.

China's Internal Struggles. The Chinese situation shows decided changes in the past few weeks. The Nationalist armies, after being hard-pressed by the forces of Generals Yen and Feng, finally under the personal leadership of Chiang Kai-shek forced back the "rebels" north of the Yellow River. Chiang's victory was in large measure due to his control of some of the great sources of China's income, notably the port of Shanghai. With money he has been able to improve the technical equipment of his armies, and also, very probably, to bribe no inconsiderable portion of the Yen-Feng troops.

During the whole struggle, both sides have tried to enlist the aid of Chang Hsueh-liang of Manchuria. The Manchurian overlord had to move warily, for a complete defeat of Yen and Feng would probably mean that the Nanking government would next demand actual control instead of nominal sovereignty over Manchuria. But if he were to aid Yen and Feng, he might unnecessarily exhaust his resources and accomplish nothing. There was also the fear that if he went south of the wall with his armies, the Russians would grasp the opportunity to interfere. The situation called for all

the intrigue and finesse for which the Chinese are famed.

When the Yen-Feng alliance troops were obviously defeated, and not before, Chang moved southward, occupying without resistance Peiping (Pekin) and Tientsin. He announces that his purpose is to enforce peace; that result will probably come for the present, but the Nationalist government has every reason to be deeply suspicious of his ultimate ends. Yen's troops have been allowed to retire intact into Shansi province, and in a few months of reorganization will be ready to enter the arena again—on which side remains to be seen. It is most difficult for a western mind, accustomed to more direct methods of action, to solve the problem of Chinese political maneuvers.

Military Procedure

Prepared expressly for the citizen-soldier

MAJ. GEN. E. G. PEYTON, U. S. Army

TRAINING NOTES
No. 13

For Study and File With Training Memorandum No. 1.[1]

ECCENTRICITY

The following article by Maj. Bertram F. Duckwall, M. C., published in *The Military Surgeon* has been brought to the attention of these headquarters. Since the subject is one of general interest extracts from the article are republished for the information of officers.

"As all officers are leaders and as the opportunity comes sooner or later to all to indulge their peculiarities, it seems to me pertinent to examine the subject of eccentricity as a factor affecting true leadership, with the attendant reaction on the morale of subordinate officers or soldiers.

"During my service I have observed that it is really not so much the amount of actual work which breaks down morale and makes for difficulties' but it is the atmosphere in which such work is performed. The easiest situation from the point of view of labor expended, becomes the hardest if there is an air of indecision, hard driving, tactics, antagonism, and the curtailment of privileges to no purpose by those charged with administration.

"We are all familiar with accounts of real or fancied ill treatment of subordinates at the hands of their superiors. In nearly every gathering officers' names will be mentioned, and there are always some who will classify them in terms of opprobrium. Graduates of the service schools will characterize some instructors as 'beyond the pale,' 'inhuman,' or 'despicable.' On the other hand, when certain other officers' names are under discussion the very opposite picture is drawn; they are 'good scouts,' 'square,' 'approachable,' a 'peach of a C. O.' In the course of this article

[1] See INFANTRY JOURNAL for January, 1930, p. 77.

I want to analyze in a limited way some of the causes of such opinions, and to indicate my conception of the remedy which will sooner or later be applied in the Army, if real progress is to ensue.

"The cause of very general adverse criticism may be expressed in the word ECCENTRICITY. I have been unable to find in the various textbooks of psychology which I have consulted, a definition which appeals to me as a comprehensive statement of the meaning of eccentricity. We are all able to observe departures from what are considered normal standards of behavior, and we are in the habit of saying that everyone is eccentric to some degree, but at what point must we draw a line? The discovery that our actions are determined to a large extent by the unconscious portion of the psyche, has opened up a tremendous field for investigation. The work of Freud and his school has revolutionized our previous ideas of psychology. The identification of complexes, or systems of ideas and affects in the unconscious, has made possible the explanation of inconsistencies, vacillations, and other abnormalties of conduct. We recognize that everyone has numerous conflicts in the unconscious, which often break through into consciousness in symbolic form, and we recognize the complexes at the basis of these states of mind. We recognize that many persons whose behavior impresses us as normal, while they may exhibit some range of reaction to unconscious conflicts, do not form such a maladjustment with their surroundings as to evoke bitter criticism among associates and subordinates. With these discoveries in mind. I believe the following definition of eccentricity will prove acceptable. Eccentricity is that form of behavior beyond the limits of normal individual variation in the reaction to unconscious complexes. As an example may be mentioned the case of an officer who has an inferiority complex with a partial realization of the trouble. He may have enough force of will to combat the feelings of insecurity which arise within his breast, and, though in command of troops, does not become a hard driver. When, however, an officer fails to conquer the urge of the complex in that he goes beyond the limits of normal behavior, it may be said that he is eccentric.

"From the experiences detailed by many officers and from my own observation I have selected six types of eccentricity, which, to my mind, do much to undermine morale among associates and subordinates. They are as follows:

"1. *The explosive type.* The picture is that of an officer who takes advantage of his rank in relieving nervous tensions. He will exhibit intense anger at the errors of others, although in many cases the errors are the result of his own faulty instructions. That makes little difference, however. He endeavors to inspire in those about him a fear of his power, and by no means takes into account the reactions of the officers and men about him to such a course of conduct. He will brook no comment and will receive no suggestions. He constantly appeals to the disciplinary powers of the service. He reminds his subordinates that he 'makes out efficiency reports,' and has the power of preferring charges against those who do not obey the letter of the law.

"Man's natural disposition is sensi-

tive, and any situation which tends to detract from his self-respect, or from the self-regarding instinct, produces either a conscious or an unconscious resentment, thereby detracting from the efficiency of his work. Hence officers of the explosive type are surrounded by antagonism; errors tend to become multiplied and soon a vicious circle is formed. The more intolerant the officer and the more frequent his rage, the greater the number of errors.

"2. *The busybody.* This is an officer who apparently has more work than he can do. He complains that there are not enough hours in the day for him to accomplish his tasks. He is never satisfied with the work of subordinates, and is constantly revising, editing, or changing their results. As would be expected, this type is soon doing all the work and the subordinates very little. Real efficiency suffers and the output is below normal. The busybody type of officer is under the domination of what Adler calls the inferiority complex.

"The inferiority complex usually causes its possessor to exercise a petty tyranny over those under him, to search for mistakes, to make 'mountains of mole hills,' and thus by placing others in an inferior situation, though momentarily, to gratify the desire of superiority. Such a desire cannot be gratified for any length of time by these measures. A complete understanding of the complex is necessary and a determined effort must be made to overcome the feeling.

"3. *The hypocritical type.* Officers who may be properly classified under this head generally pose as geniality itself. They promise everything. Their whole attitude is apparently a desire to please others. They usually promise so much that they are unable to fulfill even a part of their promises. Fear of censure from higher authority causes them to use some secret method of defeating the desires of subordinates. In time the character of such officers becomes known, and they lose the respect and confidence of their subordinates. Such a course of conduct is another result of the inferiority complex. It is brought about by the failure of the adult to overcome the feeling of inferiority implanted in childhood as a result of discipline at the hands of egotistical or overbearing parents. It constitutes an over-development of the primitive instinct designated by McDougall as the self-abasement instint.

"4. *The inattentive type.* Under this caption may be classed officers who pay very little attention to their organizations. They adopt no policies, but allow everything to be done by subordinates. The result is a lack of coordination, with the consequent feeling of dissatisfaction among subordinates. Some strong junior may assume the function of administration and the organization may operate satisfactorily, but the service is thereby burdened by a supernumerary who acts as nothing but a dead weight. The majority of officers of the inattentive type, finding that someone else can assume the helm, lapse into a state of day dreaming, or if of an active turn of mind, they utilize the time in the pursuit of pleasures of an infantile sort, so as to eradicate from consciousness their inner conflicts.

"5. *The stereotyped class.* Officers who fall into this category are those described by Tretter as the stable-

minded. The picture is that of the typical herdman, full of energy and activity, and of strong will, but relatively resistent to the effects of experience. He develops fixed opinions and is immune to argument. He is usually of a contented or placid disposition. Whatever complexes he may possess are locked within logic-tight compartments of his mind, and he never permits one compartment to come into conflict with another. An officer of this type requires all sorts of regulations and precedents for his actions. He has no imagination nor vision. He will not tolerate opinions which differ from his rigid ideas. He resembles plaster-of-paris which has set in a particular mold and cannot be changed. While there is a smoothness and ease of operation in his organization, there is no real progress, no expression of individuality, no new ideas. The quality of the work is machine-like.

"6. *Mixed types.* The foregoing types have been as clear cut as I could make them in an attempt to classify eccentricities psychologically. That there are officers who do not belong exactly in any of these types must be patent to all who have taken an interest in this study. Certain mixed types do occur. The explosive and the busybody; the hypocritical and the inattentive; the busybody and the stereotype; are common examples.

"With our increasing understanding of the mechanisms of mental action, it it is a foregone conclusion that more attention will be paid to types of officers selected for various posts. The ideal mind for leadership is that described by Tansley as combining the flexibility of intellect and the readiness to be taught by experience of the unstable mind with the resolution and persistence of the stable mind. Heretofore, there has been little attention given to the indices of various types of eccentricity. The selection of officers for certain positions has not been based on conceptions of the unconscious mechanisms of behavior. Occasionally when it is well known that in some indefinable way a certain officer will ruin an organization, such an officer is assigned some duty which makes it impossible for him to indulge his eccentricity at the expense of others. Some idea as to eccentricity among officers may be deduced from two sources: (1) From the number of desertions in an organization as compared with other organizations under similar circumstances; from the number of absences without leave; from the resignations of officers in subordinate capacities, or innumerable requests for transfers to other posts or branches of the service; from sub-rosa complaints; and (2) from a study of efficiency reports, particularly those made by a single officer on a large number of officers under him. It is recognized among psychologists of the new school that persons who possess some fault or deficiency of which they are ashamed, are notoriously intolerant of the same fault in others. Hence reports made by an officer which continually recognize and exaggerate certain defects probably indicate the existence of those defects in the reporting officer.

"It is my opinion that more and more study of the psychology of officers is bound to be made in the future. With the selection of appropriate positions for the various types, or by extended psychoanalyses so as to lay bare to the officers concerned their complexes, a much higher standard of morale is bound to follow."

The Infantry

REGULAR—NATIONAL GUARD—RESERVES

What About Puerto Rico

CAPT. CLYDE C. WAY, 65th Infantry

What is service like in Porto Rico? Here's one version.

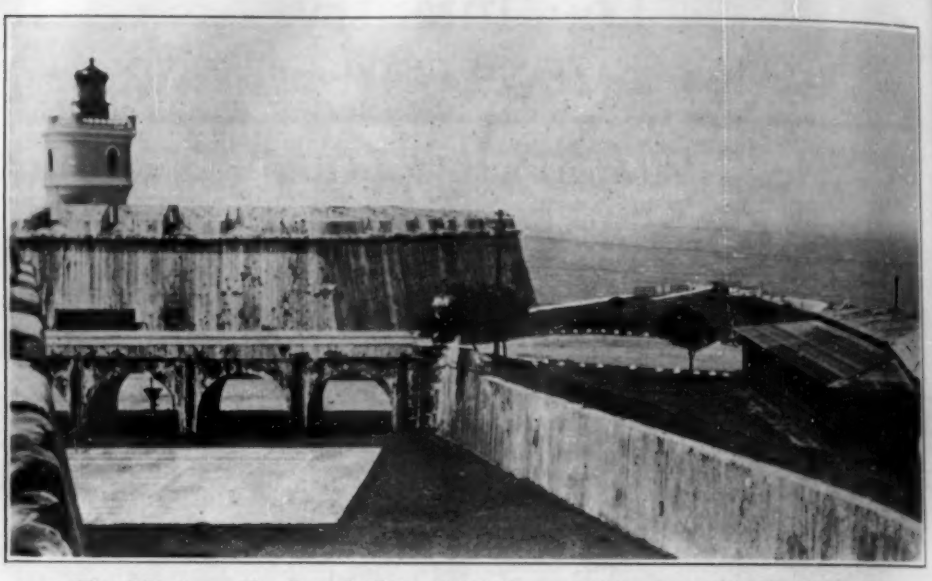
I arrived in San Juan September 18, 1928, after four days' sailing—just four days after the hurricane. Within two days I was on my way to Ponce, on the south shore, where I did relief-work duty with the Red Cross for over three months. Upon my return to regular duty I joined my battalion at Camp Buchanan—a newly acquired piece of ground comprising about 80 acres, eight miles from San Juan—where the battalion maneuvered for one month and the regiment thereafter concentrated and maneuvered for ten days. After that my company and Company B remained at Camp Buchanan for three months while concrete floors were being laid in the Infantry Barracks.

In April we marched "home." On June 1 the 1st Battalion marched back to Camp Buchanan, where we prepared for the C. M. T. camp. The training-camps are conducted each year successively by battalions.

The middle of July saw us back at the post, where we remained until the last of August. Then we marched out to camp again—relieving the 2d Battalion, which had just completed its target practice—to start on our own target practice.

At the end of September we marched

The Golf Course and the Parade, Yellow Fever Barracks, the Old Asylum, Ballaja and, Beyond, the City



The Moat on the Land Side of El Morro, Showing Tennis Courts

"home" again, where we remained until the middle of November. Then we went to camp for battalion maneuvers for two weeks; at the end of which we took our 100-mile hike. We returned to the post on December 17. In the first part of January the whole regiment assembled at Camp Buchanan for regimental maneuvers.

Except for the monthly overnight hikes and regular garrison duties, that is the cycle of the year's training. One can figure on pretty nearly six months under canvas.

The Post of San Juan proper comprises about 40 acres between the ocean and the bay.

One enters the harbor through a narrow channel, passing the post proper on the left. El Morro, the fortress started by the Spaniards in the early sixteenth century, occupies the first tip of land. It is garrisoned by Company F. Passing one double and three single sets of quarters next to El Morro, one then comes to the parade. On one side of the parade is a walled inclosure called Yellow Fever Barracks—which houses the Regimental Headquarters, G, and K Companies. Next are two larger buildings occupied by the National Guard.

On the other side of the parade are the Infantry Barracks, called the Ballaja, a large quadrangular building housing A, B, C, E, and I Companies (on the ocean and breezy side), the Regimental and Post Headquarters, the Officers' Club, the Post Exchange and 19 sets of officers' quarters (on the town side.) These sets average one living room, one bedroom, one kitchen, one store room, and one bath. Seven are larger. All are entered from the galleries on the patio and have but one entrance each. The construction is Spanish and the rooms are huge, with extremely high, beamed ceilings.

Casa Blanca, the Colonel's quarters, overlook the Bay. Casa Blanca was built originally for Ponce de Leon and was subsequently occupied by Spanish

One of the Officers' Sets Under Construction at La Princesa

governors until the present governor's palace was occupied as a residence.

South and east of these buildings is the city of San Juan, which has a population of more than 100,000. The old walls which originally enclosed San Juan for the most part remain.

From the Ballaja east along the fortifications, and separated from it by thickly inhabited dwellings and shops, are quartermaster, finance, and ordnance activities. Then for about one-half mile along the walls and the ocean-front is another thickly populated district extending to another fortress of ancient construction, called San Cristobal. This is garrisoned by D and H Companies. Down behind its walls on the western side are seven sets of officers' quarters. Eastward again from San Cristobal along the ocean, is La Princesa—a redoubt of San Cristobal. Then, about 200 yards east of the new capital, is quartered the Service Company.

Companies L and M are at Cayey in the mountains in the center of the island, where the temperature is delightful the year round. The post is called Henry Barracks. It was wiped out by the hurricane. New concrete barracks and officers' quarters are under construction.

Cayey is a town of 4,000 inhabitants and is reached only by a highway, narrow and tortuous and rising constantly for about 40 miles. As the crow flies it is about 25 miles from San Juan. Henry Barracks is on the edge of the town. It comprises about 40 acres.

The temperature averages about 80 degrees throughout the year. Throughout the summer months the monsoon winds are life-savers. Were it not for these and frequent rains and overcast skies, life would seem almost impossible. The humidity is great.

Very light-weight summer clothing is worn the year round. Woolen clothing should not be brought to Puerto Rico. It is only food for moths, weevils, and cockroaches.

As little furniture should be brought as would make for bare necessity. The

wood-borer or weevil or worm drills holes in nearly everything, including books.

Cheap and low-powered automobiles only should be brought, as the salt air soon attacks the metal and rusts it out. Furthermore, licenses are paid for at 75 cents per horse-power, in addition to a ten-dollar fee for a perpetual driver's license.

The roads are mostly paved or macadam. They vary from good to very bad, and are very narrow. Except along the sea-coast, traveling is all up and down mountains. The Porto Ricans are for the most part reckless drivers, and many accidents occur.

A narrow-gauge railroad runs almost completely around the island, which is about 100 miles long and 50 wide. Bus lines run to all parts of the island. Neither bus nor train fares are expensive.

The scenery is beautiful everywhere.

Except in two or three of the larger towns, the hotel accommodations are poor.

Living conditions are rather difficult. Happily, at La Princesa, within the walls, several new concrete quarters for officers are nearing completion. In these gas ranges and electric refrigerators will be installed. They have three bedrooms, two baths, combination living and dining room with tiled floor, kitchen, and servant's room.

Yellow Fever Barracks is soon to be torn down, and quarters for officers similar to those at La Princesa will be constructed on the post proper. The Ballaja will then be entirely occupied by troops.

The bachelor building is now under construction and will contain ten sets of quarters of two rooms with bath. It occupies a splendid site overlooking the ocean and the parade ground.

In spite of the fact that the soil will grow anything, fruit is the only class of edible which is cheap. Vegetables are almost all shipped in from the United States. Lettuce runs at 25 cents per head. Meat is high; beef tenderloin runs 70 cents per pound, as do lamb chops and veal; good steak cuts run 80 cents per pound. Milk of dependable quality is 25 cents per quart.

Meat and poultry can be bought at the commissary slightly cheaper than city market prices; but it is generally more satisfactory to buy from the market.

Water has to be boiled and filtered.

Men's and women's washable clothing is very reasonable, both ready- and tailor-made. Laundry is reasonable when done by hand.

Servants are plentiful. Their wages average about $18.00 per month.

For amusement one has several moving picture theatres, with the talking pictures in English, and dances twice weekly at the Condado-Vanderbilt Hotel, a charming spot on the ocean. On the post, the Officers' Club gives two dances and one bridge-party monthly. There are an excellent nine-hole golf course, two tennis courts, a hand-ball court, and a salt-water swimming pool.

Sailing and fishing may be indulged in. Trips to the Virgin Islands, Santo Domingo, Haiti, and the Canal Zone may be made. Trips to the Virgins are often made on naval boats, through courtesy of the Naval Commandant. Trips to the Island of Haiti may be made by plane or boat; but are expensive. Trips to Panama are made usually on army transports; it is a three-day run each way, with a three- or four-day lay-over in Panama. This

trip is the most beneficial in every way as well as the least expensive.

Time passes rapidly and one may meet many delightful people.

I have passed through the stages of dislike and indifference. If I were offered an extra year here I should be inclined to take it.

National Guard

Basic Training

IT has been generally accepted that the National Guard is to receive basic training. That fundamental is sometimes lost sight of in the preparation of training programs and schedules, and the result is that they run far afield.

What is basic training? It was conclusively defined in the National Guard Notes on Training for 1928 and will bear repeating here: "The basic training of any individual or subdivision of a larger unit may be defined as that training of the individual or subdivision, necessary to prepare him, or it, to function as an efficient part of the next huger unit. * * * In general, this term 'basic training' is not applied to the training of units larger than a company."

All of this means that the individual soldier must be trained to the extent that he will be able to take his place as an efficient member of an infantry rifle squad and carry on as such. This includes training in the following subjects:

INDIVIDUAL SOLDIER

1. Infantry drill, school of the soldier.
2. Rifle marksmanship.
3. Automatic rifle marksmanship.
4. Bayonet training, individual.
5. Scouting and patrolling.
6. Care and preservation of equipment.
7. The infantry pack.
8. Interior guard duty.
9. Military hygiene and first aid.
10. Military courtesy and customs of the service.
11. Riot duty.

SQUAD

It means that the rifle squad must be so trained that it may take its place in the section and function efficiently as an element of that unit. This includes training as a squad in the following subjects:

1. Infantry drill, school of the squad, close and extended order.
2. Combat principles, the rifle squad.
3. Musketry.
4. Bayonet training, combat.
5. Physical training.
6. Tent pitching.
7. Inspections.
8. Riot duty.

SECTION

It means that the rifle section must be trained as such to the extent that it will be able to take its place in the rifle platoon and function efficiently as an element of that unit. This includes training as a section in the following subjects:

1. Infantry drill, school of the section, extended order.
2. Combat principles, the infantry section.
3. Musketry.
4. Riot duty.

PLATOON

It means that the rifle platoon must likewise be organized and trained as such, to the end that it will be able to function as one of the three elements of a rifle company. The ordinary maintenance strength of a rifle company in the National Guard is only about that of a war strength rifle platoon, and under the circumstances must

be trained as such. This involves training in the following subjects:

1. Infantry drill, school of the platoon, close and extended order.
2. Combat principles, the rifle platoon.
3. Musketry.
4. Bayonet training, combat.
5. Inspections.
6. Ceremonies.
7. Riot duty.
8. Articles of War.
9. Uniform regulations.

The last two subjects included in the platoon would be under the company if the latter were here to be considered as a training unit.

The difficulties encountered by National Guard company commanders in carrying out an armory drill schedule are realized and fully appreciated. But, with the increased drill attendance which is being had all over the country, an opportunity is being afforded to approach more nearly the ideal schedule than ever before.

By maintaining a close record of attendance and accomplishment of individual members of a command—that is, by keeping up progress charts—the work of each man and element of the unit can be determined and allowed to proceed on a progressive basis.

Short refresher courses will serve to brush up the old members of the unit so they can go ahead with their training in the higher elements. As fast as the new men get ahead with their basic individual training they can be organized into squads and their basic squad training taken up. Combining these new squads with the old ones will facilitate the training of the new ones in the school of the section and the platoon. The training of the section as an element of the unit should not be omitted or glossed over, it is an important combat element.

Every company commander should make a training survey of his unit from time to time. Such a survey in connection with the progress chart will establish the state of training of each individual and element of his organization and help him to determine when that individual or element should be advanced to the the next higher group.

Keeping up the progress chart will entail a few minutes of additional work on the part of the company commander and the first sergeant after the drill period, but it will repay many fold for all the trouble involved.

Enlistments for Camp

NEVER in the entire history of the National Guard has there been such a high attendance at the annual field training camps this year. Whole regiments appeared at camps with only a corporal's guard missing.

This record of achievement is partially attributed to the general state of unemployment throughout the country, but that is not the sole reason. We are getting a better class of men in the ranks of the National Guard—men who are interested in military training and who have an honest desire to make places for themselves in the National Guard.

The Militia Bureau budget estimates and the appropriations made on them are based upon a camp attendance of less than 80 per cent. When this attendance runs up to more than 94 per cent, as it has this year, it creates a big strain on the official pocket book, and makes hard scratching to provide funds for the payment of such an increase.

It is a well known fact that the old idea of enlisting a lot of men just before camp prevails in a number of units. It is also a well known fact that a lot of the men so enlisted leave the National Guard as soon after camp as possible and are of little or no value to the service. These men have had little armory drill training and are not prepared to go ahead with the field work on the camp schedule. A great deal of the time of officers and noncommissioned officers has to be devoted to their recruit training, which could more profitably be devoted to more important activities. The majority of these recruits are in only for the camp, many of them for fifteen days' board and lodging, and do not contemplate rendering any further service.

In view of all of these facts, the question arises as to whether such men are worth while enlisting in a unit. It would seem that it would be good policy to deny a man the privilege of going to camp unless he has had sufficient armory drill training to get him out of his recruit status and on a plane where he can go ahead with the scheduled activities of his unit. Such a policy would go a long way toward the solution of a troublesome problem.

There is a wealth of material for the ranks of the National Guard and there is no necessity for accepting men for enlistment who do not intend to give value received for the opportunities that such membership affords them.

Communications Personnel

THE command post exercises conducted during the field training periods last summer developed the fact that there is a shortage of men in headquarters units who are competent to carry on the communications service of the organization. This applies with special reference to infantry regiments and battalions.

This service is highly specialized and the armory drill and field training periods do not provide sufficient opportunities for the training of these men.

All of this points to the necessity for recruiting the communications personnel from among men who are engaged in kindred work in civil life—men who are employed by telegraph and telephone companies, radio technicians employed by radio sales and service agencies, and men who are amateur radio operators.

The armory training periods should be utilized for the specialized military training that the men require to make them proficient in the various duties they may be called upon to perform in connection with communications. There is little or no time for this technical training at field training camps. There their time must be devoted to tactical work and providing signal communications for troops engaged in combat exercises.

The headquarters company commander who fails to obtain the right kind of personnel into his organization, or who glosses over the technical training during the armory periods, will surely find himself facing an unsolvable problem when it comes to tactical work in the field, and he will find no way out of his embarrassing situation.

Practical Armory Plan

A PRACTICAL plan for the provision of National Guard armories has been worked out by several of the states and is producing satisfactory results.

Plans for the construction of armories of varied capacity—one-company, two-company, and larger—have been prepared by the armory board, and these are used in all cases. The consequence is that the state authorities know within narrow limits just what the building is to cost and can approach local authorities with definite prospositions.

When it has been decided that a unit of the National Guard is to be allocated to a certain town, provided suitable armory accommodations can be made available, the chamber of commerce of that town is approached on the matter of building an armory.

A local corporation is organized in the town and stock in the project is sold to local capitalists. The state authorities assure the corporation that the stockholders will realize a return of six to seven per cent on their investment. This is accomplished through a state lease on the property over a period of years. This lease provides for its continuance so long as the community maintains its unit of the National Guard.

The plan has many advantages. The state does not have to embark on an extensive armory building program. All that it has to do is to appropriate funds for the rental of privately owned armories on a six to seven per cent basis.

The building of an armory in a town gives another addition to the community center which is available for a variety of purposes when it is not required for military training. The owners of the property are assured a reasonable return on their investment, and it is sure. The fact that the chamber of commerce has sponsored the proposition insures its interest in keeping the National Guard unit on a high plane of efficiency; because if it is not efficient the community will lose the unit, and with it the rental money that comes to the investors.

Those units of the National Guard which do not have suitable armory accommodations will do well to consider this plan. They will find many people today who will be willing to put their money into a project where they are assured a reasonable return on the investment.

National Guard Course at the Infantry School

THE professional education of the officers and enlisted men of the National Guard is one of the outstanding activities, as well as one of the greatest concerns, of the Militia Bureau. The appropriation of $375,000 for this purpose provides for the attendance of some 300 officers and about 125 enlisted men at the several army service schools where specially prepared courses, designed to meet their special requirements are conducted.

It is contemplated that 109 National Guard officers will be detailed for the Field Officers and Company Officers' Courses at the Infantry School next

spring. The estimated cost of this, including pay and allowances, transportation, and supplies and equipment employed in the course, will average about $1,125.00 per officer.

Some 50 enlisted men are scheduled to take the special courses provided for them, at a cost of $490.00 per man.

The Field Officers' Course at the Infantry School will commence on January 12, 1931. The class will be composed of 18 field officers of the National Guard. No allotment for this course is made to the states. Any field officer who desires to be considered for the course should submit his application to the Chief, Militia Bureau, through the Adjutant General of the State. All of these applications must reach the Militia Bureau by December 12, 1930; as definite arrangements for the attendance of the officers selected to comprise the class have to be made at that time, applications received after December 12 cannot receive consideration.

The Company Officers' Course offers two courses to officers of infantry companies. One a rifle course, the other a machine gun and howitzer course. These courses will begin on February 19, 1931, and continue until May 21, 1931. Allotments of officers for this class have been made to the states, and all recommendations must be in the Militia Bureau on or before January 19, 1931, when the membership of the class will be made up. Officers who desire to be considered for this class should submit their applications to the Adjutants General of their States at an early date. The places are allotted on the recommendation of the Adjutants General, and a dead line as of January 19, 1931, has been set on them. Applications received after that date cannot be considered in the Militia Bureau.

There are several points that are considered by the Chief of the Militia Bureau in the selection of officers for these special courses at the Infantry School.

The first is that applications must be received in the Militia Bureau on time. The matter has been initiated early enough to permit officers and state authorities to insure the applications being in the hands of the Chief of the Militia Bureau at least a month before the course is scheduled to begin.

No officer will be allowed to repeat a course, and only one course per officer can be allowed in any one school.

Field officers will not be detailed to take the Company Officers' Course and company officers will not be detailed to take the Field Officers' Course. Ordinarily these courses are more than 100 per cent over-subscribed, and they have to be limited as indicated.

All officers nominated as members of these classes must be physically fit to perform the arduous duties incident to the courses. To this end they must undergo a complete physical examination at their home stations and be certified to by a qualified medical officer. The examining officer must state, either in an indorsement to the application or in a certificate attached, that he has found the applicant physically qualified (or disqualified) to perform not only the arduous duties of a student officer, but also service in the field.

No officer on the Emergency Officers' Retired List or who is drawing compensation from the government for disability will be considered for these details.

The Enlisted Specialist Course (communications) at the Infantry

School will begin on February 10, 1931, and will end on June 6, 1931. This course is for noncommissioned officers, preferably capable sergeants, belonging to infantry headquarters units. Applicants should have at least the equivalent of an eighth grade education and should be of the type that can be used as instructors upon their return from the course.

Reserves

The Reserve Corps Gets Some Troops

MAJOR EDWARD R. SCHAUFFLER, Infantry Reserve, 408th Infantry

AN American who was division superintendent of a Mexican division of the Kansas City, Mexico, and Orient Railway during the turbulent period of revolutions which began about 1910, remarked to a friend that it was no use trying to get a man to remain on the job as brakeman when he could become a lieutenant colonel in the rebel army. The division superintendent insisted that nobody ever was started in a grade below lieutenant colonel and that a chap of any real promise easily could work himself up to a generalcy in three months.

Promotion in the Reserve Corps of our Army never has been quite as rapid as the exasperated American railroad man depicted it in rebel ranks; but undoubtedly we have had, at one time or another, plenty of lieutenant colonels who would have been better cast in the humbler roles. And the similarity of the Reserve Corps to the rebel armies in having all officers and hardly any privates has been striking for a long time.

Reserve officers lamented this, and Regular officers agreed with them, and nothing was done about the matter until last year. Then some genius whose modesty has concealed his name suggested that the Citizens Military Training Camps might provide the troops for the Reserve officers to handle during their active duty training periods, with benefit both to the officers and the candidates.

It was tried out for the first time, I believe, in 1929—certainly that was the first time in the Midle West. There were a good many handicaps about that first Reserve officer C. M. T. C. at Fort Leavenworth, outstanding among them was the fact that 2,500 boys were accepted where provision had been made for 1,800. For the first few nights they slept on tarpaulins or anything else they could get hold of, in lines that stretched far out beyond the company streets. Frantic Reserve officers wondered whether anything but calamity ever would come of it; Regular officers were not too happy; mimeograph machines developed hot boxes in attempting to get out all the orders, circulars, memoranda, and so on that were intended to prove the remedy for the situation.

Eventually, however, the camp got through its schedule with a fair degree of success, and the Reserve officers went home feeling that, whatever else they had or had not done, they had not loafed on the job.

The group of Reserve officers who went to the C. M. T. C. at Fort Leavenworth this summer had the incalculable benefit of that 1929 experience to profit by. Our regiment, the 408th Infantry,

Inspection

which supplied the instructor personnel for the first two weeks of the camp, also had profited by a two weeks encampment last year with the 137th Infantry, Kansas National Guard, so that some of us at least had some actual experience in commanding troops since World War days.

Nevertheless, we were not entirely without cold feet when we reported to camp two days before our youthful charges were officially scheduled to arrive. "Officially scheduled" is a well chosen phrase, because a lot of them began to arrive as much as a week before the opening of camp. And the worst of it was that a liberal percentage of them arrived with so little money in their pockets that they were in danger of starving to death unless Uncle Sam's military representatives took them in.

Col. C. S. Babcock, the assistant camp commandant, who was commander of Pershing's composite regiment in France after the Armistice, was far from pleased with these "early birds." It was strictly non-regulation, there wasn't any mess fund out of which to feed these hungry prospective citizen soldiers. But Colonel Babcock is a practical man, and he did not propose to have any of these youngsters either starve to death or get embroiled with the police of neighboring towns. So he took the early contingent in, fed them on cabbage and beans—there had been some of those left from the R. O. T. C. mess that had just broken up—slept them under ragged and condemned blankets, and gave them all the spare fatigue work of the camp to do in their waking hours. There was plenty to do.

"A lot of these boys told me," the Colonel said, "that they had gotten away with it the year before, and they thought they could again. I'll bet the fellows who ate cabbage for five days before this year's C. M. T. C. opened won't try it again. The regular C. M. T. menu looked like the Ritz-Carlton to them when it finally started."

Details of C. M. T. C. processing are too familiar to be worth reciting here, but they kept the Reserve officers plenty

busy. As a good many of us had learned during the early days of the draft in 1917, an officer needed to be two or three different places at once, and if he was not able to, it was just too bad.

After having seen their prospective charges through the mill, in which they shed their civilian plumage and came out birds of an entirely different and olive drab feather, company commanders and their lieutenants leaped into their cars and rushed from the Service Club at the post, where the processing took place, to camp to receive the new citizen soldiers and get them lined up and working as a military organization.

In the actual work of administration —messing and supply work—we were helped beyond words by the efficient cadres of the 3d and 17th Infantry Regiments, which were on the job twenty-four hours a day.

Drill began even before the schedule called for it, for the camp commander, Brig. Gen. Stuart Heintzelman, rightly stressed the importance of getting things moving at once, so that idleness should not afford an opportunity either for homesickness or disorder.

The Colors Go By.

Another thing that was at once impressed upon the Reserve officers was the importance of having the candi-

The Morning Milk at the C. M. T. C. at Fort Leavenworth

Church Services Held Weekly in the Grove North of the National Cemetery. C. M. T. Candidates Also Heard Citizenship Lectures Here.

dates instruct one another. C. M. T. acting noncomissioned officers were put in charge of squads and platoons and expected to work. Supervision was the officer's job, and plenty of it; but we soon learned that it was not his job to drill squads, and that if he did, he was cheating his subordinates of their proper measure of responsibility.

It may be recalled that the summer of 1930 was hot. Most summers are hot in the Missouri River valley, but this summer was hotter than the average. Apparently, however, that did not slow down the tempo of the C. M. T. C. at Fort Leavenworth at all. The youngsters turned out to drill promptly and energetically, and after dinner they turned out for athletics with equal zip. The sight of fifty or sixty half-naked young men going through football practice in the August sun was enough to make some of their elders wince and consider sunstroke, but it did not feaze the young men men themselves at all.

Perhaps one reason for all the pep was that this C. M. T. C. was peculiarly domestic in its habits. That was not altogether a matter of choice. Upon arrival, the young men learned that their motor cars would be taken care of by the government until their owners got ready to resume their civilian status. There was a nice, spacious parking ground, surrounded by barbed wire and with good stout padlocks on the gates, and once inside, the citizen solder's "Lizzie" stayed there until it was time for the homeward trek.

There was, as there always is in forming any newly assembled body of men into a military unit, an enormous amount of work, planning, need for tact, understanding and intelligence. There were a lot of problems to be solved for which the training regulations offered no suggestions. One had

The "Young Idea" Learns to Shoot

to rely on good old common sense and right feeling, without which, as a colonel of some twenty years' military experience once remarked to me, one may know all the regulations ever written without any profit.

When the 1st Battalion of our C. M. T. C. regiment paraded, after only four mornings' training in close order drill, swung precisely in square corners, and passed the reviewing officer aligned as it ought to be, in step, and with pieces at the proper angle, there were "ohs" and "ahs" 'from the spectators that did anybody's heart good—particularly the hearts of the company officers who deserved the praise.

Despite our inexperience—and most of us were bound to be inexperienced, or at least rusty in the actual handling of troops—the candidates showed steady and amazing progress in the two weeks we were with them. Indeed, all of us hated to go home and turn them over to the succeeding reserve regiment, the 54th Infantry. We had come in our brief two weeks time to have the feeling of personal affection and pride that any officer who is worth his salt has in "his men."

It seemed incredible that these snappy, clean-cut, sun-bronzed youngsters were the tatterdemalion outfit of half-grown boys of high school and college age who had come to Fort Leavenworth two weeks before.

Everybody among the Reserve officers agreed that he had worked harder than he had at any previous period of active duty training since he was commissioned. And, without exception, we all felt that we had gotten more out of our two weeks than ever had been possible in the past. This "Reserve game" was something more than putting on a uniform once in a while to attend a dinner, and drawing two weeks of government pay in the summer time.

Experience had taught us some of the things that would be required of us in case of an emergency, and it had also brought us the satisfactory knowledge that we were able to measure up to them.

That was worth an immeasurable amount to us.

It has been the custom in our regiment for the last few years to present

All Work Makes Jack a Dull Boy

a saber to the young man who is considered the outstanding second lieutenant of the regiment. It was harder to select the outstanding second lieutenant this year than it ever has been in the past, because all the second lieutenants, as well as their seniors, were on their toes all the time, performing to the best of their ability.

Of course, we all felt well when Colonel Babcock, in charge of the actual training of the C. M. T. C., sent Col. Carl L. Ristine of Lexington, Mo., our regimental commander, an official letter of commendation, in which he declared that the regiment had performed admirably.

To learn that Colonel Babcock, whom everyone had been prepared to admit was "our severest critic" was also "our best friend," made every Reserve officer in camp feel glad.

I feel certain that the experience of the 408th Infantry at the C. M. T. C. was not unique and that there must be a great many other reserve regiments, as well as individual officers, that have realized the wisdom of the policy that gives the Reserve officer actual human material to deal with, as well as theoretical instruction. More power to the new policy, is the sentiment of those Reserve officers who are interested in seeing the corps grow as a vital, serviceable part of the Army of the United States.

Movie Reviews "A la Carte"

Fred Bund, Jr.

EXTENDING the idea represented by the JOURNAL'S book reviews, "Movie Reviews a la carte" appears for the second time this month. It is our hope that these reviews may prove useful; we think that they may be helpful to officers in charge of Post theaters and to patrons of those theaters in selecting or suggesting pictures to be obtained for local showing.

Realizing the difficulty of suiting all tastes, the JOURNAL offers the movie reviews "a la carte." The quotations are from four of the leading motion picture trade publications. Where a difference of opinion exists we have tried to give both viewpoints.

We are not crediting each quotation to its source, as the necessity for brevity might result in our not fully expressing the spirit of the complete review. We do, however, wish to make blanket acknowledgment to the following editors and publications: Sime Silverman of *Variety*, Pete Harrison of *Harrison's Reports*, John W. Alicoate of *The Film Daily*, and Maurice Kann of *Motion Picture News*.

In an effort to help parents, the reviewer makes an estimate of each picture as entertainment for children. When he can arrive at a definite opinion he indicates it by the symbol (S) to mean "suitable for children," and by the symbol (N) to mean "not recommended for children." In other cases he makes no notation.

◆ ◆ ◆

MONTE CARLO—*Paramount*
JEANETTE MACDONALD, JACK BUCHANAN,
Sophisticated comedy drama with music.

"The master hand of Ernst Lubitsch," we are told by one reviewer, "has directed another picture that belongs in the highest rank of talker efforts." "Another triumph for Lubitsch," says a second who finds the picture "a delightful comedy with music" and comments on the "fine work of the cast and the many treats in photography." A third agrees as to direction, acting and photography but feels that "the interpolation of songs causes it to drag until it becomes dull." We find one reviewer who rates the picture as "ordinary" and charges it to the disappointing direction of Ernst Lubitsch." (N)

◆ ◆ ◆

ABRAHAM LINCOLN—*United Artists*
WALTER HUSTON

"A startlingly superlative accomplishment,' says a critic who is famed for his conservatism. "Excellent," says another who finds D. W. Griffith's direction "masterful" and Walter Huston's performance in the title role, "extraordinary." "A distinguished and human narrative of a great president and the Civil War days," says one reviewer who labels the picture, "a Griffith achievement." "A real document," says another who calls it "a two dollar admission picture" and predicts that "the finish will bring tears to even the most hardened film-goers." (S)

◆ ◆ ◆

THE LITTLE ACCIDENT—*Universal*
DOUGLAS FAIRBANKS, JR., ANITA PAGE.
Farce Comedy.

"A high grade comedy," our first reference informs us, adding that "Douglas Fairbanks, Jr. carries the burden of a delicate subject nicely." Another commentator finds it "plenty good, hitting a fast tempo at the very start and maintaining the pace to the finish." Another calls it "a lightweight farcical comedy that will please the mamas and their young daughters." (N)

◆ ◆ ◆

HER MAN—*Pathe*
HELEN TWELVETREES, RICARDO CORTEZ.
Parisian Underworld melodrama.

In calling it "a powerful story" we strike the keynote of the various reviewers. One goes on to put it in the same class as "Holiday" and believes its "action, drama and humor will satisfy any audience." Another finds "some deeply moving situations" but reminds us that "this is no Sunday School picture." "A new angle for underworld stories," says one who found the picture "almost continuously full of action." (N)

AFRICA SPEAKS—*Columbia.*
Hunting African big game.
An engrossing record. (S)

THE CAT CREEPS—*Universal.*
HELEN TWELVETREES
"The Cat and the Canary" is sound. (S)

THE DOORWAY TO HELL—*Warners*
LEW AYRES
Gangster film—plenty of action. (N)

DOUGHBOYS—*Metro Goldwyn Mayer*
BUSTER KEATON
A Laugh Festival. (S)

LILIOM—*Fox*
CHARLES FARRELL
Distinguished. (N)

LOTTERY BRIDE—*United Artists*
JEANETTE MACDONALD, JOE E. BROWN.
Lavish and colorful musical melodrama.

MADAME SATAN—*Metro Goldwyn Mayer*
REGINALD DENNY, KAY JOHNSON
Splendor—daring—modernity. (N)

MISBEHAVING LADIES—*First National*
LILA LEE—BEN LYON
Good clean comedy. (S)

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THE LAST OF THE DUANES—*Fox*
GEORGE O'BRIEN, MYRNA LOY.
Zane Grey Western.

"Fast thrilling action and human interest almost all the way through, make this good entertainment." So reads one announcement. Another tells us that "this Zane Grey story makes a nice picture of the old Western days." Even more enthusiastic is a third where we read that it is "just about the wooliest, rough-riding, gun-barking western that has been released for some months past." We read, in his closing paragraph, that "all the elements of the good old Hart and Mix features are wrapped into one package" and find ourselves unprepared for one critic's regret that "westerns had ever gotten a voice if the stupid dialogue in this one precedents the lines that may substitute the old lurid subtitles, in others to come." He closes a very negative review with the prediction that this "is just for the 'western' fans and kids." (S)

◆ ◆ ◆

LEATHERNECKING—*Radio Pictures*
KEN MURRAY, LOUISE FAZENDA.
Comedy with music.

One reviewer, trying to classify this marine opus, decided that "it starts out like a rough and tumble comedy, turns into opera bouffe, with chorus and song ensembles, and finishes up like a musical review." Another found it "an enjoyable musical comedy with equal attention paid to the plot and the music." Another describes it as "surfire for those who want hilarity in the broad and rough." Lastly, we are promised "a goodly portion of laughs and catchy musical numbers." (S)

◆ ◆ ◆

BIG BOY—*Warners*
AL JOLSON
Comedy with music.

"After starting out rather weakly," says one reviewer, "the new Al Jolson picture hits a steady stride and brings in plenty of substantial entertainment." Another, liking "Jolson as a comedian without the tear-dripping dramatics of weepy songs," finds it "one of the best pictures Al has made since the 'Jazz Singer.'" "No special artistic triumph for Jolson" says a third who believes, however, that it "will please the star's following." (S)

SEA GOD—*Paramount*
RICHARD ARLEN, FAY WRAY.
South Sea Island melodrama.

Our initial reference tells us that this "South Sea adventure story is good entertainment." In looking further we are told that it "falls far short of the mark," one of the indictments being the 10-20-30 type of villain" who according to the review, "needs only handle-bar mustachios." Then follow charges of "unreality" in characterizations and incidents. After that we learn from another source that it is "an exciting South Sea Island story, with the interest held tight throughout." Finally we read that "The Sea God is rather mediocre material" but it may be liked by "readers of adventure magazines and the red blooded youth of the land."

◆ ◆ ◆

OUTSIDE THE LAW—*Universal*
MARY NOLAN, EDWARD G. ROBINSON.
Underworld melodrama.

We offer on this underworld picture two opinions no closer together than the poles. One tells us that there is "no excuse for this one," claiming that "it is one of the worst examples of claptrap since talkies arrived." Warming up to his subject the critic calls "the acting ninety per cent pitiful, the players obviously as bewildered as the director." Before you scratch this from your entertainment list, hearken to another reviewer who calls it "corking underworld drama that should please as well as its former silent version." This arbiter calls "the acting and direction very good." Since "doctors disagree" we refer to a third who commits himself not at all, giving only a synopsis and the information that crowds attended the New York showings. (N)

◆ ◆ ◆

THREE FACES EAST—*Warners*
ERIC VON STROHEIM, CONSTANCE BENNETT.
Spy melodrama.

Classifying this as "tense drama with a war background," one critic praises Von Stroheim's performance and bows also to "the alluring charm and cleverness of Constance Bennett." A second reviewer finds this an "interesting spy drama," while a third calls Von Stroheim "a figure in American pictures," and credits the story with suspense and "something different from the spy formula." (S)

OLD ENGLISH—*Warners*
GEORGE ARLISS
Distinguished—a class picture. (N)

OUTWARD BOUND—*Warners*
DOUGLAS FAIRBANKS, JR.
Away from the beaten track. (N)

SCARLET PAGES—*First National*
ELSIE FERGUSON, GRANT WITHERS.
Effective courtroom drama. (N)

VIENNESE NIGHTS—*Warners*
VIVIENNE SEGAL
Artistic Operetta.

WAR NURSE—*Metro Goldwyn Mayer*
ROBERT MONTGOMERY—ANITA PAGE
A "different" war picture. (N)

WAY FOR A SAILOR—*Metro Goldwyn Mayer*
JOHN GILBERT
Wherein Gilbert "stages a comeback."

WHAT A WIDOW—*United Artists*
GLORIA SWANSON.
Enjoyable slapstick farce. (N)

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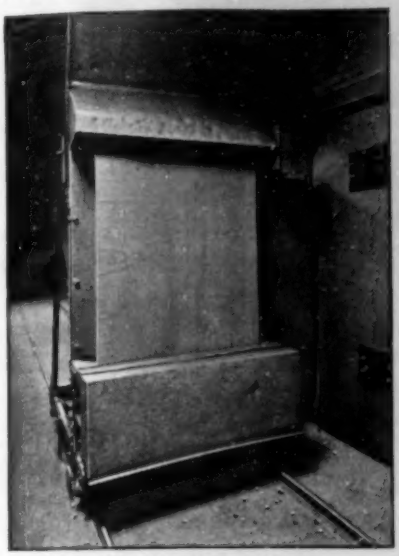
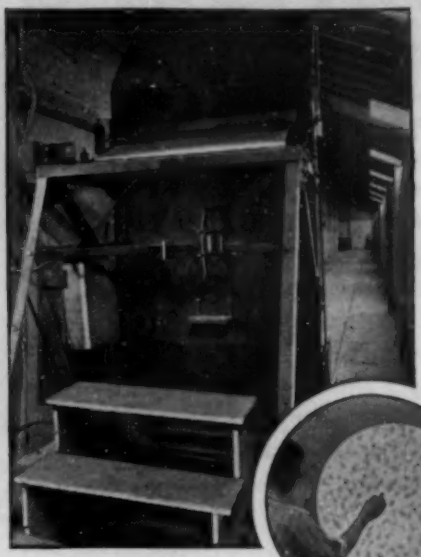
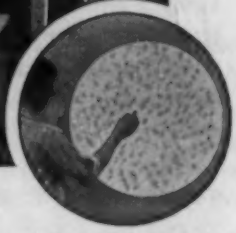


(A) Front View of a Shotgun Target



(B) Rear View of a Shotgun Target



(C) Pattern Distribution or Counting the Pattern

Efficiency

THE shooter is not only interested in the velocity, penetration and safety of his shotgun ammunition, but he is equally interested in the manner in which the shot pellets are distributed when they strike the target, whether it be game or clay birds.

This distribution is called the "pattern," and to accomplish the best results, this pattern should be even and uniform as in the illustration "C."

Patterns are measured at Brandywine laboratory by means of a target as shown in illustration "A," where the shot pellets penetrate a sheet of paper suspended directly in front of a steel plate. The back of the target is shown in illustration "B," where it will be noted that an electrical make-and-break contact is attached to the middle of the plate and serves to measure the velocity simultaneously with the registration of the pattern.

The paper is then removed and the number of pellets counted by drawing a 30-inch circle whose center is the point of aim. In addition to the count, special attention is paid to the uniformity of distribution. A pattern unevenly distributed would allow of misses because there would be many gaps which would provide safety areas through which the live or inanimate target might escape.

A full choke gun should shoot 70% of its shot charge in a 30-inch circle at 40 yards and a true cylinder bore will not do better than 40%. Various modifications of the boring at the muzzle will come between these limits.

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Books

THE MAKERS OF CIVILIZATION IN RACE AND HISTORY by L. A. Waddell, LL.D., C.B., C.I.E., London. Luzac & Co., 1929. 608 pp. 38 Plates, 140 illustrations in text, five maps. £1-8-0.

A monumental work which upsets many fundamental conceptions of ancient history. The author has traced the dynasties of Mesopotamia from the first appearance of Sumerian culture, about 3378 B. C., to the Kassi dynastic period of modern classic history, about 1738 B. C. The account reveals the development of civilization, and a record of conquest and empire.

According to Professor Waddell's deductions, the Sumerians, a people whose race and origin have, hitherto, been undetermined, were Aryan Goths identical with the leading stock of the Nordic peoples. The author has identified the Sumerian kings with the Pre-Hindu, or "Pre-Gangetic" Aryan kings of Indian tradition. Through this identification it has been possible to fill the gap of 430 years which has hitherto been an obstacle to accurate chronology.

King Uruash (Ur Nina) of Lagash is identified as the founder of the great "Panch" or Phoenecian dynasty which, under Sargon the Great, extended its imperial sway from the valley of the Indus River to the British Isle. The Phoenecians themselves are revealed, not as Semites as commonly understood but as Aryan Goths, ancestors of the Britons of England. Manis Tussu, son of Sargon, is identified as Menes, predynastic king of Egypt, and as Minos, king of Crete; thus establishing the Sumerian, or Gothic origin of Egyptian, Cretan, and Greek culture.

An interesting development is the identification, among the early Aryan kings, of characters of religious and legendary tradition. The first king, canonized or deified under his different titles and personal names as Thor, Arthur, Dur, In-Dur, Indra, Sag or Sig, Zeus, Prometheus, Bil or Bel, Odinn, Ad or Adamu, is traced as the human original of the principal deities of classic times, as well as of King Arthur of Britain, St. George of Cappadocia, and Adam. His son is similarly identified with St. Michael, Cain, and Sir Gowan (Gawain) of the Arthurian legends. In their conquest of the snake and dragon worshipping Chaldeans, is seen the origin of the legends of St. George and of St. Michael and the dragon. In the Chaldean fetish stone bowl, captured and held as a sacred relic through the First Dynasty, is seen the origin of the "Holy Grail."

The author raises a number of controversial issues. His arguments, supported by a mass of evidence, are convincing; but are presented, unfortunately, in a manner which is tedious and liable to discourage the general reader. But the conclusions of Professor Waddell as to racial domination among the great peoples of antiquity strain our credulity far less than many of the teachings which have heretofore prevailed.

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The Makers of Civilization in Race and History presents an hypothesis which must serve as a point of departure for future historical and archaeological research, and one which no student, and particularly no teacher of ancient history can afford to ignore. As a reference, the book should be in every library. To the general educated reader, its perusal and study are well worth while.

GERMANY IN THE POST-WAR WORLD By Erich Koch Weser. Dorrance and Company. $2.00.

Readers who desire an insight into the post-war affairs of Germany will find in this book an able and authoritative discussion of the subject. The author has intimate first-hand knowledge whereof he speaks, and he sets forth his views in a way that seldom departs from a truly persuasive tone. His principal aim is to show that Germany has been and is now sincerely making honest efforts to bring about a better understanding among the nations that are involved in the many vexing problems that confront Germany. That Germany hopes to improve her present condition through the growth of better understanding is but natural. However, as the author repeatedly points out, Germany relies mainly upon the intelligence, industry, and vitality of her people.

The book has two main parts—Probing the Past, and Scanning the Future. The first part deals with events that have transpired during the past twelve years. The initial chapter "America Comes Into Her Own," contains much truth about our present positon in world affairs, and also an over-generous portion of flattery. It is necessary to take this portion of the book with a grain of salt. However, when the author writes of "Germany from 1919 to 1930," he speaks with apparent sincerity and frankness.

The second part of the book, Scanning the Future, discusses German foreign policies, the central European situation, possible union of the European countries with special regard to economic matters, the treatment accorded German speaking people who now live under foreign flags, the possible union of Germany and Austria, and a number of other interesting economic and political questions. A chapter on War Guilt comes at the end as an anti-climax that distracts the reader whose interest has been previously focussed upon the future.

Study of this book will help to throw light on the recent political developments in Germany. The obvious importance of these developments, with particular reference to the future peace of Europe, gives the book especial interest at this time. We commend it to all who are interested in the affairs of the Eastern Hemisphere.

A BRASS HAT IN NO MAN'S LAND, by Brig. Gen. F. P. Crozier, C. B., C. M. G., D. S. O. Cape & Smith, 1930. 254 pages. $2.50.

A two-fisted fighter and leader of men in battle, turned sour. As a record of General Crozier's personal experience and exploits, the book is unusually good and intensely interesting. As a preachment against the resort to force to preserve our rights and integrity, the book is woefully weak. The epilogue is an anti-climax. Too bad the general didn't stick to his

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knitting and leave the preaching to those who make it a profession, for he has marred what would otherwise be a corking story of the war as seen and lived by a real soldier. The publishers say the book has been bitterly denounced in England.

In spite of the philosophizing, "A Brass Hat in No Man's Land" is well worth reading.

Ⓘ

FUN SKETCHING, A PASTIME THAT PAYS, by W. R. Maxwell Foster. Macmillan Co., New York, 1930. 88 pages, profusely illustrated. $1.25.

The author, a British artist and teacher, starts from the simplest beginnings and shows how to draw faces and figures and how to make money from this pleasant recreation. He analyzes the various expressions and shows how to draw them with a few deft strokes.

Ⓘ

FREDERICK THE GREAT, by Werner Hegemann, Translated by Winifred Ray. A. H. Knopf, New York, 1929. 526 pages. $5.00.

Originally written as a "pamphlet" for German consumption, this original and unique book paints Frederick II as one of the most obnoxious figures in the history of the world.

In this connection, the author says in his preface, "If my thesis that he was obnoxious is right, then the fact that he could be held up for a hundred and fifty years as the model for kings, seems to me a world tragedy."

Arranged in the form of conversations with Manfred Elles, scholarly American, "Frederick The Great" is more a picture of the Europe of the 18th century than it is a conventional biography.

THE REAL WAR, 1914-1918, by Captain B. H. Liddell-Hart. Little, Brown & Co., Boston, 1930. $4.00.

Captain Hart gives in his first chapter a brief but comprehensive account of the causes of the World War. He shows that fear of being caught off guard caused military men of Germany, Austria, and Russia to urge immediate mobilization when there was still a chance of settling the matter by diplomacy.

The author handles the strategy and tactics of the combatants without gloves. He is as generous with praise when he feels that praise is due, as he is unsparing of criticism. On the whole, he gives the impression that he considers genius conspicuous by its absence.

Regardless of what one thinks of the Captain's conclusions, one is forced to admit that his book is a valuable contribution to the story of the World War. It contains much food for serious study and reflection on the part of the military reader.

Ⓘ

THE RAKE AND THE HUSSY, by Robert W. Chambers. Appleton & Company, New York, 1930. 441 pages. $2.50.

Originally appearing as a serial in LIBERTY, this latest novel by Robert W. Chambers is a story of a young American blade, Joshua Brooke, who finds himself in England when the War of 1812 begins. He is a wild, drinking, duelling rake. The heroine is Naia Strayline, a young and beautiful American with an unrestrainable bent for doing the unconventional. Joshua, the Rake, flees England with

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important dispatches belonging to the English government. Naia, the Hussy, insists on accompanying him.

From the time they land in New York until after the war is over the Hussy sticks to him through thick and thin. The love story is rather preposterous, but the descriptions of the scenes in which the Indians appear are done in the author's usual artistic style. The sketches of historical characters and events and of the Indians are the best parts of the book.

ⓘ

PARADE GROUND, by Jaquelin Deitrick. Doubleday, Doran, New York, 1930. 318 pages. $1.00.

An unpleasant story by an army girl of army life. It may be of army life as she saw it, but not as this reviewer has seen it in twenty-seven years' service. The technique is generally good, but the characters are patently overdrawn, for they certainly are not typical. The style is virile and the dialogue is above average. On the whole, a depressing book which gives a wholly erroneous picture of army life as most of us have seen and lived it.

ⓘ

SPREADING GERMS OF HATE, by George Sylvester Viereck. Horace Liveright, New York, 1930. 311 pages. $3.00.

A searching account of German, British, Irish, and American propaganda in the United States during the World War and later.

On page 303 we read "Banning's collection (or war pictures used in propaganda) includes 500,000 separate items. By a curious irony of fate, the War Department refused to release the pictures Colonel Banning selected for me from this enormous compilation. It is contrary to the policy of the Department to sanction the dissemination of any matter calculated to offend our former foes. I am delighted to chronicle this fact here, even if the decison deprives me of valuable illustrations."

In discussing German and Irish propaganda, Mr. Viereck knows whereof he writes, for he was in the inner circle. He makes some startling disclosures.

Calmly and dispassionately, Mr. Viereck has exploded many of the false impressions we get in the days of frenzied emotions. "Spreading Germs of Hate" is well worth reading.

ⓘ

IT'S A GREAT WAR, by Mary Lee. Houghton, Mifflin, New York, 1929. 575 pages. $3.00.

Mary Lee has produced a chronicle of her experiences in the war. The heroine, Anne Wentworth, is a clean-cut American girl, who went across with a base hospital as secretary. Her sketches of various individuals in the unit sound genuine. After leaving the base hospital she worked in Air Service headquarters in Paris and at Colombey-les-Belles. Then in the "Y." Her opinion of the Y. M. C. A. secretaries is far from complimentary.

The book is written in a staccato style and moves rapidly. It is a kaleidoscopic picture of the A. E. F. as seen by an observing woman.

She should be able to give G-1 good data on the question of women workers in the theater of operations.

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The Infantry Association

AT a special meeting on October 8, 1930, the Executive Council formally confirmed the adoption of the amendments to the Constitution of the Association recently submitted to the members for vote. The vote was overwhelmingly in favor of the amendments.

At the same meeting the Council adopted the proposed new by-laws, provided by the recently adopted amendments to the Constitution.

The new conditions of membership appear on the title page of this Journal.

The Council directed that the amendments and the new by-laws should go into effect on November 1, 1930, and that the secretary should execute the necessary administrative details, such as reclassification of members and furnishing of membership cards and copies of the Constitution and By-Laws to members, as soon as reasonably practicable.

On and after November 1, 1930, there will be no dues to the Infantry Association; there will be a registration fee of one dollar for new members and for former members who desire to resume membership.

Subscription to the INFANTRY JOURNAL *will continue at the members' rate of three dollars ($3.00) a year for all classes of members, and will be at the regular rate of four dollars ($4.00) per year for non-members (individuals or organizations).* Membership cards and copies of the amendments to the Constitution and the new By-Laws will be distributed to the members as rapidly as possible.